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AUTHOR	Mrowicki, Linda; And Others
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ABSTRACT

A project was conducted for the following purposes: (1) improve the productivity and efficiency of 21 companies by providing workplace literacy instruction to workers lacking basic skills required for their jobs; and (2) improve the capability of educational providers to meet the basic skill needs of the manufacturing and financial services industries in the Chicago area by developing customized curriculum and instructional materials. During the program, 2,407 workers in the 21 companies were recruited and pretested; 1,526 workers were provided with customized training using 166 modules; and a basic skills curriculum for Total Quality Management was developed. The project exceeded goals in some areas (for example, the 166 modules developed were 66 percent above goal), achieved less than goal in some areas (1,526 participants served versus the 1,933 goal), and met goals in other areas (recruitment of prospective students, training of instructors). Almost all of the employees completed the training, and almost all were successful in improving their skills. An external evaluation report (Jane W. Philippi) showed the following: needs were met, participants showed impressive pretest-posttest gains; and significant improvements in employee performance were noted. Data were not available to show cost benefits to the companies. Recommendations were made to improve the project for future use by making realistic assessment of company commitments and number of workers that can be served. (KC)

ED 389 893

WORKPLACE LITERACY in a TOTAL QUALITY MANAGEMENT ENVIRONMENT for the MANUFACTURING AND FINANCIAL SERVICES INDUSTRIES

V198A30043-93

Final Performance Report

Prepared by:

Linda Mrowicki, Director
Douglas Jones
Tess Locsin
Lynn Olivi
Colette Poindexter

U.S. DEPARTMENT OF EDUCATION
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For more information contact
Linda Mrowicki, Project Director
Workplace Education Division - THE CENTER - Resources for Education
1855 Mt. Prospect Road
Des Plaines, IL 60018
(708) 803-3535
FAX (708) 803-3231

CE 070 903

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I. Compare actual accomplishments to the objectives contained in the approved application.

GOALS: The goals of the project were:

1. to improve the productivity and efficiency of 21 companies by providing workplace literacy instruction to workers lacking basic skills required for their jobs

2. to improve the capability of educational providers to meet the basic skill needs of the manufacturing and financial services industries by developing custmized curriculum and instructional materials.

GOAL I OBJECTIVES:

1. ***To establish Employer/Employee Basic Skills Committees by month 1.***
This goal was achieved within the first month of initiating the project at each site.

2. ***To conduct literacy audits and needs assessments for 21 companies by month 4.***
This goal was achieved by the fourth month of iniating the project at each site.

3. ***To develop/select assessment instruments for participating companies by month 4.***
This goal was achieved by the fourth month of initiating the project at each site.

4. ***To develop customized competency-based curricula and classroom instructional materials by month 15.***
This goal was achieved within the time frame allowed by the extension..

5. **To establish centralized learning labs utilizing customized software and individualized instruction for small business clusters by month 15**.
Activities were conducted to attain this goal but due to external circumstances and company decisions, the goal was partially attained.

6. ***To select and train 15 workplace literacy instructors by month 5 and as needed.***
The project selected and trained 18 workplace literacy instructors prior to start up of courses. The project achieved **20% of the goal.**

7. ***To recruit and pre-post test, and counsel 2400 workers by month 14.***
The project recruited and pre-tested 2407 workers which met the goal.

8. ***To schedule 100 modules and provide instruction to 1933 participants by month 16.***
The project scheduled 166 modules. Due to a late start-up at some sites and unanticipated down time at some sites, the project requested a no-cost extension. By the end of the project, 166 courses were provided which was **163% of the goal.**

Of the projected 1933 participants, 1526 were actually served. This is 79% of goal. The reason for not meeting the goal of the number of participants was a higher estimate of the class size in the proposal than the actual enrolled.

9. ***To measure the learning of 1933 participating workers by month 16.***
By the end of the project, 1533 participating workers had been evaluated.

10. ***To measure the impact of the basic skills programs on the companies.***
This goal was achieved in the month that the program was completed at each site.

GOAL II OBJECTIVE:

11. ***To develop, validate, refine, and produce basic skills curriuclum for TQM in the manufacturing and financial services industries by month 18.***

Because the curriculum was the culmination of all project activities, the development coincided with the conclusion of the approved 90 day close-out.

The project disseminated the curriculum to ERIC Clearinghouse on Adult, Career & Vocational Education, Division of Adult Education & Literacy Clearinghouse on Adult Education and Literacy, and the Curriculum Coordination Center Network. The curriculum is also housed in THE CENTER Resource Library which provides easy access to all programs and practitioners in the state of Illlinois.

SUMMARY OF SITE ACTIVITIES

Twenty-one companies participated in the grant - nineteen manufacturers and two financial institutions. Each site is described below in terms of the nature of their business and the services provided.

MANUFACTURING INDUSTRY

AALLIED DIE CASTING/INLAND DIE CASTING

Both companies are a part of larger corporation, RCM Industries. The two sites are approximately 20 miles apart and each is its own profit center. Both companies make aluminum die casting parts for the automotive, motorcycle, and recreational industries. The majority of their workers speak English as a Second Language, with Spanish being the predominant language. The total workforce is approximately 120.

The goal of the program was to provide ESL instruction so that workers could communicate in English on their jobs. The project conducted 139 assessments. Because of the large pool of workers needing English, the model for the greatest impact on the workplace was the development of short, competency-specific modules which were provided to all workers. Instruction was offered on 100% worktime and consisted of:

Total Classes:	24
ESL:	24 / 100%
Ave. class size:	5.3
Drop-out rate:	1 participant (0.8%) out of a total of 127 dropped out of the program.
Success Rate:	100% of the participants successfully completed the modules.

AVON PRODUCTS

AVON employs about 900 workers to manufacture, pack, and ship cosmetics. The needs assessment indicated that reading and ESL were priorities. The goal of the program was to provide ESL and reading instruction so that workers could communicate problems to supervisors both orally and in writing. The project conducted 417 assessments. Instruction was offered on 50% worktime and consisted of:

Total Classes:	16
ESL:	3 / 19%
Math:	2/ 13%
Reading/Writing:	10 / 63%
Oral Communication:	1 / 6%
Ave. class size:	5.7
Drop-out rate:	4 participants (4.4%) out of a total of 90 dropped out of the program.
Success Rate:	100% of the participants successfully completed the modules.

CAST PRODUCTS

The company employes about 250 workers to manufacture zinc castings for the electronics and automotive industries. The project conducted 45 assessments. Instruction was on 100% worktime.

Total Classes:	4
ESL	4 / 100%
Ave. class size:	11.3
Drop-out rate:	0 participants (0%) out of a total of 45 dropped out of the program.
Success rate:	91.1% of the participants successfully completed the classes.

CJ SAPARITO

This company has been a leader in plating since 1946. It employs 100 workers in its plating operations. The company's goal was to achieve ISO 9000 certification, and it realized that improving English skills was a necessary prerequisite. The project conducted 46 assessments. Instruction was offered on 50% worktime and consisted of:

Total Classes:	3
ESL:	3 / 100%
Ave. class size:	8.7
Drop-out rate:	2 participants (7.7%) out of a total of 26 dropped out of the program.
Success rate:	95.8% of the participants successfully completed the classes.

E.J. BRACH CORPORATION

Brach's employs about 1500 workers in the manufacture of a variety of seasonal and nonseasonal candy, including Starlight Mints and Pick-A-Mix. The project conducted 75 assessments. Training was conducted during off-hours but reimbursed at 50%.

Total Classes:	20
ESL:	16 / 80%
Reading/Writing:	1 / 5%
GED:	3 / 15%
Ave. class size:	13.9
Drop-out rate:	33 participants (11.9%) out of a total of 278 dropped out of the program. The drop-out rate is attributed primarily to changing shift schedules which affected workers' time availability.
Success rate:	100% of the participants successfully completed the classes.

FEL-PRO, Inc.
FEL-PRO employs about 2500 workers to manufacture, pack, and ship gaskets. The goal of the program was to enhance employees' skills so that they could participate more fully in the operations of the company. The project conducted 703 assessments. Instruction was offered on 100% worktime ad consisted of:

Total Classes:	27
ESL:	7 / 26%
Math:	4 / 15%
Reading/Writing:	16 / 59%
Ave. class size:	11.3
Drop-out rate:	18 participants (5.9%) out of a total of 306 dropped out of the program.
Success rate:	99.6% of the participants successfully completed the classes.

IRMCO
IRMCO is a small company employing 25 workers. The project conducted 14 assessments. Instruction was offered during work hours.

Total Classes	2
Math/Writing:	1 / 50%
Reading/Writing:	1 / 50%
Ave. Class size:	3.0
Drop-out rate:	0 participants (0%) out of a total of 6 dropped out of the program.
Success rate:	100% of the participants successfully completed the classes.

MAGNETIC INSPECTION LAB
This company specialized in precision welding and nondestructive testing of welded parts. It employs 45 workers. With its focus on quality and high technology, the company established a basic skills program with the goal of improving workers' reading and writing skills. The project conducted 29 assessments. Instruction was offered on 50% worktime and consisted of:

Total Classes:	5
Reading/Writing:	5 / 100%
Ave. class size:	7.0
Drop-out rate:	1 participant (2.9%) out of a total of 35 dropped out of the program.
Success rate:	100% of the participants successfully completed the classes.

P-K TOOL

P-K Tool provides design engineering, metal stampings, production machining, fabrication and assembly to the automotive, electronics and appliance industries. About 100 workers are employed. The focus of the program was on reading work-related documents so that workers could more actively participate in the completing quality-related documents. The project conducted 218 assessments. Instruction was offered on 50% worktime and consisted of:

Total Classes:	1
Reading/Writing:	1 / 100%
Ave. class size:	11.0
Drop-out rate:	4 participants (36.4%) out of a total of 11 dropped out of the program.
Success rate:	100% of the participants successfully completed the class.

PYRAMID NORTHERN MOLDING

The company employs about 100 workers. Pyramid realized that its workers needed basic skills in order to successfully implement an SPC program which stalled due to a lack of basic skills. The goal of the program was to provide basic math and reading skills so that workers could participate in further training. The project conducted 15 assessments. Instruction was offered on 50% worktime and consisted of:

Total Classes:	2
Math:	1 / 50%
Reading/Writing:	1 / 50%
Ave. class size:	7.5
Drop-out rate:	2 participants (13.3%) out of a total of 15 dropped out of the program.
Success rate:	100% of the participants successfully completed the classes.

R. OLSON MANUFACTURING

This company employs about 40 workers to produce precision metal stamping and assemblies. The goal of the program was to improve the English language and reading skills of workers so that they could actively participate in training programs for quality. The project conducted 57 assessments. Instruction was offered on 50% worktime and consisted of:

Total Classes:	6
Reading/Writing:	1 / 17%
Document Orientation:	5 / 83%
Ave. class size:	7.7
Drop-out rate:	1 participant (2.2%) out of a total of 46 dropped out of the program.
Success rate:	100% of the participants successfully completed the classes.

REDI-CUT FOODS

This company employs about 350 workers to prepare vegetables for the food industry. One of its customers is McDonald's Corporation. The goal of the program was to improve their English skills so that workers could actively participate in training programs for quality. The project conducted 54 assessments. Instruction was offered on 50% worktime and consisted of:

Total Classes:	5
ESL:	5 / 100%
Ave. class size:	11.2
Drop-out rate:	7 participants (12.5%) out of a total of 56 dropped out of the program.
Success rate:	100% of the participants successfully completed the classes.

TAPES UNLIMITED

This company recycles packaging tape for such manufacturers as 3M. The company receives scrap tape which otherwise would be deposited in landfills and re-produces it in useable form. The company employs about 35 workers, most of whom speak limited English. The goal of the program was to improve the speaking ability of the workers to increase the interaction in English between the line workers and management. The project conducted 33 assessments. Instruction was offered on 50% worktime and consisted of:

Total Classes:	4
ESL:	4 / 100%
Ave. class size:	12.5
Drop-out rate:	10 participants (20%) out of a total of 50 dropped out of the program.
Success rate:	90% of the participants successfully completed the classes.

VIKING METAL CABINETS

This company employs about 25 workers to produce metal cabinets. The goal for the program was to improve their math and English skills for greater participation in quality initiatives, especially Statistical Process Control. The project conducted 82 assessments. Instruction was offered on 50% worktime and consisted of:

Total Classes:	4
ESL:	1 / 25%
Math:	3 / 75%
Ave. class size:	6.5
Drop-out rate:	0 participants (0%) out of a total of 26 dropped out of the program.
Success rate:	100% of the participants successfully completed the classes.

WELLS MANUFACTURING

Wells with 275 workers produces high volume cast products. The goal of the program was to provide the skills needed for performing varied and new job functions. The project conducted 24 assessments. Instruction was offered on 50% worktime and consisted of:

Total Classes:	2
Writing:	2 / 100%
Ave. class size:	12.0
Drop-out rate:	5 participants (20.8%) out of a total of 24 dropped out of the program.
Success rate:	100% of the participants successfully completed the classes.

WILTON TOOL

Wilton employs 70 workers in the manufacturing of clamping rolls and machinery. It embarked on a quality program in 1990. The goal of the basic skills program was to provide the necessary reading skills for employees to use company-related documents. The project conducted 71 assessments. Instruction was offered on 50% worktime and consisted of:

Total Classes:	2
Reading/Writing:	2 / 100%
Ave. class size:	9.0
Drop-out rate:	3 participants (16.7%) out of a total of 18 dropped out of the program.
Success rate:	100% of the participants successfully completed the classes.

FINANCIAL SERVICES INDUSTRIES

FIRST CHICAGO CORPORATION

First Chicago employs about 17,000 workers in the Chicago area. The goal of the program was to enhance the basic skills of its non-exempt workers in order to improve customer satisfaction and work performance. The project conducted 343 assessments. Instruction was offered on 100% worktime and consisted of:

Total Classes:	38
Math:	33 / 87%
Reading/Writing:	2 / 5%
Reading/Critical Thinking:	1 / 3%
Business Writing:	2 / 5%
Ave. class size:	9.3
Drop-out rate:	10 participants (2.8%) out of a total of 353 dropped out of the program.
Success rate:	100% of the participants successfully completed the classes.

TRANSMARK

This is a division of Trans Union Credit Information Corporation. Transmark employs about 500 workers. The program priority was on the improvement of oral communication skills for better customer and co-worker interaction. The project conducted 0 assessments. Instruction was offered on 100% worktime and consisted of:

Total Classes:	1
ESL:	1 / 100%
Ave. class size:	14.0
Drop-out rate:	0 participants (0%) out of a total of 14 dropped out of the program.
Success rate:	100% of the participants successfully completed the class.

PROGRAM CONTINUATION AFTER THE GRANT

Eighteen companies received actual assessment and instructional services. At the conclusion of the grant,

* six (33 %) companies felt that their basic skill needs had been met.

* twelve (66%) companies decided to continue the programs either through their own resources or through outside finding from the state. One mid-size company has expanded its basic skills initiatives to other plants located within and outside of Illinois.

Four manufacturers did not participate in the program. During the time between submission of the proposal and the grant start-up, one company moved out of the geographical area (Another similar company was substituted) and another initiated and completed a basic skills program using other funds. Two companies, each with workforces fewer than 15, decided that they could not participate due to high staff turnover, scheduling, and changing working demands.

II. Refer to the schedule of accomplishments and their target dates contained in the approved application and give reasons for slippage in those cases where established objectives were not met. Include any corrective measures taken to correct slippage.

The schedule of accomplishments and completion dates are summarized in the previous section. With the no-cost extension, nine objectives were met or exceeded. One exception is the target number of participants.

The reason for not meeting the objective of teaching 1933 participants is that the project over-estimated the class size in the application. We originally estimated an average class size of 15. In reality the average class size was much smaller primarily due to scheduling constraints which limited the number of workers that could be released from the shop floor for classes at one time. (Class size ranged from 3 - 14 depending on the company.)

It is important to note that while the project did not attain its objective regarding the number of participants, the project actually **exceeded** its objective of the number of courses to be provided.

A second objective which was partially achieved was the development of customized software. One of the business partners utilizes a computer lab and basic skill materials for math were developed and field-tested. These were successful and are now a part of the training.

The project staff received training in developing customized materials using two software programs - Express Train and Tool Book. Staff developed sample lessons using workplace materials for one site which did have a learning lab; however, the lab did not have the equipment needed to field-test and pilot these materials. The materials will be available for use when the lab is updated.

The part of the objective which was not met was the development of a centralized lab for a small business cluster which was a supplier chain. By the time the proposal was funded, the main partner in this cluster chose not to participate in the grant because the partner no longer had any basic skill needs. During the lengthy funding process, the partner obtained other funding to provide the necessary basic skills. Because of the urgent need for basic skills, this partner could not wait for the Federal USDOE funding. Two of the other partners participated, however, the literacy audits indicated that their needs were for oral communication (ESL) and lower level reading - needs which would not have been met through a computer lab as originally proposed.

It is important to note that no funds were requested or expended for the purchase of equipment of this lab. All computers were to have been available through the companies.

III. For projects involving direct services to individuals, identiify the number and characteristics of project participants who completed planned project activities and of those who did not, and the outcomes achieved by participants who completed project activities.

1. Mean Age Participants: 36.1

2. Sex: No. Males 505 No. Females 535 (Non duplicative data)

3. Race/Ethnicity: No. who are: (Non duplicative data)

White	184
Black	236
Hispanic	484
Asian / Pacific Islander	113
Other	13

4. No Limited English Proficient: 530 (Non duplicative data)

5.

Years with the company (Non duplicative data)	No. Participants
Unemployed	0
0-5	498
6-10	165
11-15	130
16-over	232

Note: upon occasion, participants declined to provide information, therefore, the totals may differ.

Workplace Education Division of THE CENTER - Resources for Education

INTERNAL REPORT

WORKPLACE LITERACY in a TQM ENVIRONMENT for the BANKING and MANUFACTURING INDUSTRIES in CHICAGO and NORTHERN ILLINOIS

V198A30043

July 1, 1993 - September 30, 1995

For more information contact:
Linda Mrowicki, Project Director
1855 Mt. Prospect Road
Des Plaines, IL 60018
(708) 803-3535
Fax (708) 803-3231

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July 1, 1993 -- September, 1995

Part 1: Program Parameters

1. Target No. to be Served: 1933

2. No. Served at Each Site to Date: (Class Slots)

Site 1.	127	Site 11.	35
Site 2.	0	Site 12.	11
Site 3.	90	Site 13.	15
Site 4.	278	Site 14.	46
Site 5.	45	Site 15.	56
Site 6.	26	Site 16.	0
Site 7.	0	Site 17.	50
Site 8.	306	Site 18.	14
Site 9.	353	Site 19.	26
Site 10.	6	Site 20.	24
		Site 21.	18

3. Total No. Served: 1526

4. Fed. Funds Obtained: $791,682

* 5. Matching Funds / In-Kind: $59356.63

** 6. Value Release Time: $569,860.00

7. No. Participating in Programs Offered:

Basic Skills	816
GED	38
ESL	672

8. Contact Hours Provided: 36820.75
(Contact Hours are the number of teaching hours that workers receive.)

Part 2: Participation Data***

1. Mean Age Participant 36.1

2. Sex: No. Males 505 No. Females 535

3. Race/Ethnicity No. who are:

White	184		
Black	236	Other	13
Hispanic	484	Asian/Pacific Islander	113

4. No. Limited English Proficient: 530

5. Years with the company	No. Participants
Unemployed	---
0-5	498
6-10	165
11-15	130
16-over	232

* Includes employers' contributions of management time, office space, duplication materials, classroom space and refreshments for the participants.

** Release time includes employees' time spent in class, orientation meetings, assessments, and counseling.

*** Upon occasion participants declined to provide information requested in Part 2. #1-5, therefore the totals may not be equivalent.

quarter

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Chart A: Status of Literacy Audits

Company	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 5	Quarter 6	Quarter 7	Quarter 8	Quarter 9
Aallied	Completed								
Austin Continental	Scheduled 3rd qtr.								
Avon	In progress	Completed							
Brach's	Completed								
Cast Products				Completed					
CJ Saparito	Completed								
FABSCO	Scheduled 4th qtr.								
Fel-Pro	Completed								
First Chicago	Completed-Mailroom	Completed-Mail Processors	Completed - Disbursement	Completed-Resrch & Adjustments					
Irmco	Completed								
Krone	*								
Magnetic I. Lab	Scheduled 3rd qtr.		Completed						
P-K Tool	Scheduled 2nd qtr.		Completed						
Pyramid	Completed								
R. Olson	Completed								
Redi-Cut	Completed								
Sommerville	Scheduled 3rd qtr.			In Progress	Completed				
Tapes Unlimited	Completed								
Trans Union	Scheduled 3rd qtr.				In Progress	Completed			
Viking	Completed								
Wells	Scheduled 2nd qtr.	Completed							
Wilton	Completed								

* Krone -Participation dropped and approved. Non-participation si due to Krone moving their plant outside of our service region. Krone Die Casting's participation is replaced by Cast

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Chart B: Status of Pre-Assessments

Company	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 5	Quarter 6	Quarter 7	Quarter 8	Quarter 9
Aallied/Inland	0	82	0	0	14	0	38	5	0
Austin Continental	0	0	0	0	0	0	0	0	0
Avon	0	126	274	0	17	0	0	0	0
Brach's	6	42	0	27	0	0	0	0	0
Cast Products	0	0	0	0	0	0	12	33	0
CJ Saparito	36	10	0	0	0	0	0	0	0
FABSCO	0	0	0	0	0	0	0	0	0
Fel-Pro	633	62	0	0	0	0	0	8	0
First Chicago	199	20	68	46	10	0	0	0	0
Irmco	14	0	0	0	0	0	0	0	0
Magnetic I. Lab	0	0	29	0	0	0	0	0	0
P-K Tool	0	0	218	0	0	0	0	0	0
Pyramid	0	7	8	0	0	0	0	0	0
R. Olson	0	57	0	0	0	0	0	0	0
Redi-Cut	30	0	0	24	0	0	0	0	0
Sommerville	0	0	0	0	0	0	0	0	0
Tapes Unlimited	33	0	0	0	0	0	0	0	0
Trans Union	0	0	0	0	0	0	0	0	0
Viking	0	82	0	0	0	0	0	0	0
Wells	0	24	0	0	0	0	0	0	0
Wilton	71	0	0	0	0	0	0	0	0
Total:	1023	512	597	97	41	0	50	46	0
Cumulative Total:	1023	1535	2132	2229	2311	2311	2361	2407	2407
Goal:	2400	2400	2400	2400	2400	2400	2400	2400	2400
% of Goal:	43%	64%	89%	93%	96%	96%	98.4%	101%	101%

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Chart C: Status of Students

Company	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 5	Quarter 6	Quarter 7	Quarter 8	Quarter 9
Aallied/Inland	0	0	12	26	29	19	26	15	0
Austin Continental	0	0	0	0	0	0	0	0	0
Avon	0	0	0	29	32	0	27	2	0
Brach's	6	55	39	36	46	0	42	54	0
Cast Products	0	0	0	0	0	12	11	17	5
CJ Saparito	0	26	0	0	0	0	0	0	0
FABSCO	0	0	0	0	0	0	0	0	0
Fel-Pro	0	44	64	53	30	38	46	31	0
First Chicago	189	3	68	42	10	41	0	0	0
Irmco	0	6	0	0	0	0	0	0	0
Magnetic I. Lab	0	0	0	18	9	8	0	0	0
P-K Tool	0	0	0	0	11	0	0	0	0
Pyramid	0	7	8	0	0	0	0	0	0
R. Olson	0	0	7	0	0	39	0	0	0
Redi-Cut	13	13	0	20	10	0	0	0	0
Sommerville	0	0	0	0	0	0	0	0	0
Tapes Unlimited	33	0	17	0	0	0	0	0	0
Trans Union	0	0	0	0	0	0	14	0	0
Viking	0	0	19	7	0	0	0	0	0
Wells	0	24	0	0	0	0	0	0	0
Wilton	9	9	0	0	0	0	0	0	0
Total:	250	187	234	231	177	157	166	119	5
Cumulative Total:	250	437	671	902	1079	1236	1402	1521	1526
Goal:	1933	1933	1933	1933	1933	1933	1933	1933	1933
% of Goal:	13%	23%	35%	47%	56%	64%	73%	79%	79%

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Chart D: Status of New Courses/Workshops

Company	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 5	Quarter 6	Quarter 7	Quarter 8	Quarter 9
Aallied/Inland	0	0	2	4	6	4	5	3	0
Austin Continental	0	0	0	0	0	0	0	0	0
Avon	0	0	0	4	5	0	6	1	0
Brach's	1	5	4	2	4	0	4	0	0
Cast Products	0	0	0	0	0	1	1	1	1
CJ Saparito	0	3	0	0	0	0	0	0	0
FABSCO	0	0	0	0	0	0	0	0	0
Fel-Pro	0	3	4	4	3	4	4	5	0
First Chicago	16	1	11	3	2	5	0	0	0
Irmco	0	2	0	0	0	0	0	0	0
Magnetic I. Lab	0	0	0	2	2	1	0	0	0
P-K Tool	0	0	0	0	1	0	0	0	0
Pyramid	0	1	1	0	0	0	0	0	0
R. Olson	0	0	1	0	0	5	0	0	0
Redi-Cut	1	1	0	1	2	0	0	0	0
Sommerville	0	0	0	0	0	0	0	0	0
Tapes Unlimited	2	0	2	0	0	0	0	0	0
Trans Union	0	0	0	0	0	0	1	0	0
Viking	0	0	3	1	0	0	0	0	0
Wells	0	2	0	0	0	0	0	0	0
Wilton	1	1	0	0	0	0	0	0	0
Total:	21	19	28	21	25	20	21	10	1
Cumulative Total:	21	40	68	89	114	134	155	165	166
Goal:	100	100	100	100	100	100	100	100	100
% of Goal:	21%	40%	68%	89%	114%	134%	155%	165%	166%

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Chart E Courses by Date

Start Date	End Date	Site	Course	Instructor	Total # Students	Successes	More Training Needed	Drops	% of Success
7/12/93	7/16/93	First Chicago	Math	Anderson	12	12	0	0	100%
7/12/93	7/16/93	First Chicago	Math	Anderson	8	8	0	0	100%
7/12/93	7/16/93	First Chicago	Math	Anderson	10	10	0	0	100%
8/2/93	8/6/93	First Chicago	Math	Anderson	10	9	0	1	100%
8/2/93	8/6/93	First Chicago	Math	Anderson	9	7	0	2	100%
8/2/93	8/6/93	First Chicago	Math	Anderson	7	7	0	0	100%
8/2/93	8/6/93	First Chicago	Math	Anderson	13	13	0	0	100%
8/16/93	10/25/93	Brach's	Reading/Writing I	Ainis	6	3	0	3	100%
8/21/93	8/29/93	First Chicago	Math	Anderson	10	9	0	1	100%
8/21/93	8/29/93	First Chicago	Math	Anderson	9	7	0	2	100%
8/21/93	8/29/93	First Chicago	Math	Anderson	8	8	0	0	100%
8/21/93	8/29/93	First Chicago	Math	Anderson	13	13	0	0	100%
8/21/93	8/29/93	First Chicago	Math	Anderson	7	7	0	0	100%
8/24/93	10/26/93	Wilton	Reading/Writing I	Poindexter	9	8	0	1	100%
9/20/93	9/23/93	First Chicago	Math	Anderson	15	14	0	1	100%
9/20/93	9/23/93	First Chicago	Math	Anderson	13	13	0	0	100%
9/20/93	12/8/93	Tapes Unlimited	ESL I	Newman	17	17	0	0	100%
9/21/93	12/9/93	Tapes Unlimited	ESL II	Fogel	16	12	3	1	80%
9/24/93	10/3/93	First Chicago	Math	Anderson	25	25	0	0	100%
9/28/93	11/30/93	Redi-Cut	ESL	Schnell	13	12	0	1	100%
9/30/93	10/3/93	First Chicago	Math	Anderson	20	20	0	0	100%
10/10/93	12/8/93	Pyramid	Reading/Writing	Considine	7	5	0	2	100%
10/19/93	12/21/93	CJ Saparito	ESL I	Considine	14	12	0	2	100%
10/19/93	12/21/93	CJ Saparito	ESL II	Taylor	6	5	1	0	83%
10/19/93	12/21/93	CJ Saparito	ESL II	Taylor	6	6	0	0	100%
10/21/93	2/7/94	Irmco	Writing/Math	Poindexter	2	2	0	0	100%
10/21/93	2/7/94	Irmco	Reading/Writing	Ainis	4	4	0	0	100%
10/26/93	12/30/93	Fel-Pro	Reading/Writing I	Poindexter	16	12	0	4	100%
10/26/93	12/30/93	Fel-Pro	ESL I	Locsin	14	12	0	2	100%
10/26/93	12/30/93	Fel-Pro	Reading/Writing NNS	Newman	14	12	0	2	100%
11/1/93	1/19/94	Wilton	Reading/Writing II	Woodruff	9	7	0	2	100%
11/30/93	12/21/93	First Chicago	Reading/Critical Thinking	Woodruff	3	3	0	0	100%
12/6/93	2/7/94	Redi-Cut	ESL	Janus	13	11	0	2	100%
12/7/93	2/17/94	Brach's	ESL	VanStockum	9	6	0	3	100%
12/7/93	2/17/94	Brach's	ESL	Milas	6	6	0	0	100%
12/7/93	2/17/94	Brach's	ESL	VanStockum	14	13	0	1	100%
12/7/93	2/17/94	Brach's	ESL	Milas	15	6	0	9	100%
12/7/93	2/17/94	Brach's	ESL	Mrowicki/Jones	11	8	0	3	100%
12/7/93	3/15/94	Wells	Writing	Mansoori	15	10	0	5	100%
12/7/93	3/15/94	Wells	Writing	Mansoori	9	9	0	0	100%

Start Date	End Date	Site	Course	Instructor	Total # Students	Successes	More Training Needed	Drops	% of Success
10/4/94	11/22/94	Magnetic Lab	Reading/Writing	Oswald	8	8	0	0	100%
10/4/94	12/1/94	Fel-Pro	ESL 3	Oswald	11	11	0	0	100%
10/4/94	12/1/94	Fel-Pro	Reading/Writing 3	Ainis	7	7	0	0	100%
10/5/94	12/2/94	Fel-Pro	Reading/Writing 2	Oswald	12	12	0	0	100%
10/12/94	12/9/94	Fel-Pro	Math 1	Ainis	8	8	0	0	100%
10/18/94	11/3/94	R. Olson	Document Orient.	Katrakis	7	7	0	0	100%
10/20/94	11/9/94	R. Olson	Document Orient.	Katrakis	7	7	0	0	100%
10/24/94	11/23/94	Aallied	ESL	Schnell	4	4	0	0	100%
10/24/94	12/21/94	Cast	ESL	Locsin	12	9	3	0	75%
11/4/94	12/16/94	Aallied (Inland)	ESL for Supervisors	Schnell	5	5	0	0	100%
11/4/94	12/16/94	Aallied (Inland)	ESL for Supervisors	Schnell	5	5	0	0	100%
11/29/94	1/4/95	Aallied	ESL	Schnell	5	5	0	0	100%
12/13/94	12/22/94	R. Olson	Document Orient.	Katrakis	6	6	0	0	100%
12/20/94	12/29/94	R. Olson	Document Orient.	Katrakis	12	12	0	0	100%
1/16/95	2/15/95	Aallied (inland)	ESL	Lovering	6	6	0	0	100%
1/23/95	3/29/95	Brach's	ESL	Trusiak	20	18	0	0	100%
1/23/95	3/29/95	Brach's	ESL	Trusiak	22	22	0	0	100%
1/26/95	3/28/95	Fel-Pro	ESL IV	Oswald	13	13	0	0	100%
1/26/95	3/28/95	Fel-Pro	Reading/Writing 3	Oswald	15	12	0	3	100%
1/27/95	3/31/95	Fel-Pro	Math 2	Ainis	8	8	0	0	100%
1/27/95	3/31/95	Fel-Pro	Reading/Writing 4	Ainis	7	7	0	0	100%
1/31/95	3/30/95	Cast	ESL	Locsin	11	11	0	0	100%
2/13/95	3/17/95	Aallied (inland)	ESL	Schnell	5	5	0	0	100%
2/14/95	4/13/95	Avon	Math A	Oswald	4	4	0	0	100%
2/14/95	4/13/95	Trans Union	ESL	Newman	14	14	0	0	100%
2/14/95	4/18/95	Avon	Reading/Writing 1A	Ainis	4	4	0	0	100%
2/15/95	4/11/95	Avon	Reading/Writing C	Poindexter	3	3	0	0	100%
2/15/95	4/17/95	Avon	Reading/Writing C	Ainis	6	6	0	0	100%
2/15/95	4/17/95	Avon	ESL A	Newman	7	7	0	0	100%
2/15/95	4/19/95	Avon	Reading/Writing C	Skurla	3	3	0	0	100%
2/27/95	3/29/95	Aallied (inland)	ESL	Lovering	5	5	0	0	100%
2/28/95	4/27/95	Fel-Pro	Math Refresher (2nd shift)	Olivi	3	2	0	1	100%
3/20/95	4/19/95	Aallied	ESL	Schnell	5	5	0	0	100%
3/20/95	4/19/95	Aallied (inland)	ESL	Schnell	5	5	0	0	100%
4/4/95	6/19/95	Brach's	ESL	Trusiak	28	27	0	0	100%
4/4/95	6/19/95	Brach's	ESL	Trusiak	26	24	0	1	100%
5/8/95	6/1/95	Aallied	ESL	Schnell	5	5	0	1	100%
5/9/95	6/29/95	Avon	Math	Oswald	2	2	0	0	100%
5/16/95	7/20/95	Cast	ESL	Locsin	17	16	1	0	94%
5/23/95	6/22/95	Aallied (inland)	ESL	Lovering	5	5	0	0	100%

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Chart E Courses by Date

Start Date	End Date	Site	Course	Instructor	Total # Students	Successes	More Training Needed	Drops	% of Success
5/23/95	7/25/95	Fel-Pro	Reading/Writing NNS -A	Oswald	12	12	0	0	100%
5/23/95	7/25/95	Fel-Pro	Reading/Writing NNS - B	Oswald	9	9	0	0	100%
5/24/95	7/21/95	Fel-Pro	Reading/Writing 2	Oswald	4	4	0	0	100%
5/24/95	7/21/95	Fel-Pro	Math 1	Oswald	6	6	0	0	100%
6/12/95	7/12/95	Aallied	ESL	Schnell	5	5	0	0	100%
8/2/95	9/27/95	Cast	ESL	Locsin	5	5	0	0	100%

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Chart F Courses by Site

Start Date	End Date	Site	Course	Instructor	Total # Students	Successes	More Training Needed	Drops	% of Success
1/11/94	2/10/94	Aallied	ESL	Schnell	5	5	0	0	100%
1/11/94	2/10/94	Aallied	ESL	Schnell	7	7	0	0	100%
4/4/94	4/28/94	Aallied	ESL	Schnell	11	11	0	0	100%
5/2/94	5/27/94	Aallied	ESL	Schnell	5	5	0	0	100%
5/2/94	6/22/94	Aallied	ESL	Schnell	6	6	0	0	100%
6/6/94	6/29/94	Aallied	ESL	Schnell	4	4	0	0	100%
7/18/94	8/24/94	Aallied	ESL	Schnell	8	8	0	0	100%
8/31/94	10/27/94	Aallied	ESL for Supervisors	Schnell	4	4	0	0	100%
9/2/94	11/23/94	Aalled	ESL for Supervisors	Schnell	4	4	0	0	100%
9/26/94	10/19/94	Aallied	ESL	Schnell	6	6	0	0	100%
9/26/94	10/19/94	Aallied	ESL	Schnell	6	6	0	0	100%
9/24/94	11/23/94	Aallied	ESL for Supervisors	Schnell	1	1	0	0	100%
10/24/94	11/23/94	Aallied	ESL	Schnell	4	4	0	0	100%
11/29/94	1/4/95	Aallied	ESL	Schnell	5	5	0	0	100%
3/20/95	4/19/95	Aallied	ESL	Schnell	5	5	0	0	100%
5/8/95	6/1/95	Aallied	ESL	Schnell	5	5	0	1	100%
6/12/95	7/12/95	Aallied	ESL	Schnell	5	5	0	0	100%
11/4/94	12/16/94	Aallied (Inland)	ESL for Supervisors	Schnell	5	5	0	0	100%
11/4/94	12/16/94	Aallied (Inland)	ESL for Supervisors	Schnell	5	5	0	0	100%
1/16/95	2/15/95	Aallied (inland)	ESL	Lovering	6	6	0	0	100%
2/13/95	3/17/95	Aallied (inland)	ESL	Schnell	5	5	0	0	100%
2/27/95	3/29/95	Aallied (inland)	ESL	Lovering	5	5	0	0	100%
3/20/95	4/19/95	Aallied (inland)	ESL	Schnell	5	5	0	0	100%
5/23/95	6/22/95	Aallied (inland)	ESL	Lovering	5	5	0	0	100%
6/6/94	8/8/94	Avon	ESL 2	Ainis	5	5	0	0	100%
6/7/94	8/9/94	Avon	Oral Communication	Jones	5	5	0	0	100%
6/8/94	8/1/94	Avon	ESL 3	Locsin	12	12	0	0	100%
6/22/94	8/31/94	Avon	Reading/Writing	Ainis	7	7	0	0	100%
9/14/94	11/14/94	Avon	Reading/Writing B	Katrakis	5	5	0	0	100%
9/14/94	11/14/94	Avon	Reading/Writing B	Newman	7	7	0	0	100%
9/20/94	11/17/94	Avon	Reading/Writing A	Ainis	8	7	0	1	100%
9/20/94	11/17/94	Avon	Reading/Writing 1A	VanStockum	5	3	0	2	100%
9/21/94	11/21/94	Avon	Reading/Writing B	Ainis	7	6	0	1	100%
2/14/95	4/18/95	Avon	Reading/Writing 1A	Ainis	4	4	0	0	100%
2/14/95	4/13/95	Avon	Math A	Oswald	4	4	0	0	100%
2/15/95	4/19/95	Avon	Reading/Writing C	Skurla	3	3	0	0	100%
2/15/95	4/11/95	Avon	Reading/Writing C	Poindexter	3	3	0	0	100%
2/15/95	4/17/95	Avon	Reading/Writing C	Ainis	6	6	0	0	100%
2/15/95	4/17/95	Avon	ESL A	Newman	7	7	0	0	100%
5/9/95	6/29/95	Avon	Math	Oswald	2	2	0	0	100%

Start Date	End Date	Site	Course	Instructor	Total # Students	Successes	More Training Needed	Drops	% of Success
8/16/93	10/25/93	Brach's	Reading/Writing I	Ainis	6	3	0	3	100%
12/7/93	2/17/94	Brach's	ESL	VanStockum	9	6	0	3	100%
12/7/93	2/17/94	Brach's	ESL	Milas	6	6	0	0	100%
12/7/93	2/17/94	Brach's	ESL	VanStockum	14	13	0	1	100%
12/7/93	2/17/94	Brach's	ESL	Milas	15	6	0	9	100%
12/7/93	2/17/94	Brach's	ESL	Mrowicki/Jones	11	8	0	3	100%
3/28/94	6/7/94	Brach's	ESL	VanStockum	11	8	0	3	100%
3/29/94	5/31/94	Brach's	ESL	Taylor	6	6	0	0	100%
3/29/94	5/31/94	Brach's	ESL	Taylor	13	13	0	0	100%
3/29/94	6/7/94	Brach's	ESL	VanStockum	9	9	0	0	100%
4/5/94	5/31/94	Brach's	ESL	Mrowicki	19	16	0	3	100%
5/21/94	9/24/94	Brach's	GED Math I	Irizarry	17	10	0	7	100%
9/20/94	11/17/94	Brach's	ESL 1	Larsen	14	14	0	0	100%
9/20/94	11/21/94	Brach's	ESL 2	Larsen	11	11	0	0	100%
9/24/94	11/25/94	Brach's	GED Writing	Irizarry	12	12	0	0	100%
9/24/94	11/25/94	Brach's	GED Math II	Irizarry	9	9	0	0	100%
1/23/95	3/29/95	Brach's	ESL	Trusiak	20	18	0	0	100%
1/23/95	3/29/95	Brach's	ESL	Trusiak	22	22	0	0	100%
4/4/95	6/19/95	Brach's	ESL	Trusiak	28	27	0	0	100%
4/4/95	6/19/95	Brach's	ESL	Trusiak	26	24	0	1	100%
10/24/94	12/21/94	Cast	ESL	Locsin	12	9	3	0	75%
1/31/95	3/30/95	Cast	ESL	Locsin	11	11	0	0	100%
5/16/95	7/20/95	Cast	ESL	Locsin	17	16	1	0	94%
8/2/95	9/27/95	Cast	ESL	Locsin	5	5	0	0	100%
10/19/93	12/21/93	CJ Saparito	ESL I	Considine	14	12	0	2	100%
10/19/93	12/21/93	CJ Saparito	ESL II	Taylor	6	5	1	0	83%
10/19/93	12/21/93	CJ Saparito	ESL II	Taylor	6	6	0	0	100%
10/26/93	12/30/93	Fel-Pro	Reading/Writing I	Poindexter	16	12	0	4	100%
10/26/93	12/30/93	Fel-Pro	ESL I	Locsin	14	12	0	2	100%
10/26/93	12/30/93	Fel-Pro	Reading/Writing NNS	Newman	14	12	0	2	100%
1/18/94	3/17/94	Fel-Pro	Reading/Writing B	Newman	14	14	0	0	100%
1/18/94	3/17/94	Fel-Pro	Reading/Writing II	Poindexter	19	16	0	3	100%
1/18/94	3/17/94	Fel-Pro	ESL	Locsin	14	14	0	0	100%
1/19/94	3/23/94	Fel-Pro	Reading/Writing I	Woodruff	17	13	1	3	93%
4/19/94	6/16/94	Fel-Pro	Reading/Writing I	Newman	18	17	0	1	100%
4/19/94	6/16/94	Fel-Pro	ESL I	Oswald	10	10	0	0	100%
4/19/94	6/16/94	Fel-Pro	ESL III/IV	Oswald	11	11	0	0	100%
4/20/94	6/24/94	Fel-Pro	Reading/Writing III	Poindexter	14	14	0	0	100%
7/12/94	9/8/94	Fel-Pro	Reading/Writing I	Oswald	10	8	0	2	100%
7/12/94	9/8/94	Fel-Pro	ESL II	Oswald	11	11	0	0	100%

Start Date	End Date	Site	Course	Instructor	Total # Students	Successes	More Training Needed	Drops	% of Success
7/13/94	9/9/94	Fel-Pro	Reading/Writing II	Ainis	9	9	0	0	100%
10/4/94	12/1/94	Fel-Pro	ESL 3	Oswald	11	11	0	0	100%
10/4/94	12/1/94	Fel-Pro	Reading/Writing 3	Ainis	7	7	0	0	100%
10/5/94	12/2/94	Fel-Pro	Reading/Writing 2	Oswald	12	12	0	0	100%
10/12/94	12/9/94	Fel-Pro	Math 1	Ainis	8	8	0	0	100%
1/26/95	3/28/95	Fel-Pro	ESL IV	Oswald	13	13	0	0	100%
1/26/95	3/28/95	Fel-Pro	Reading/Writing 3	Oswald	15	12	0	3	100%
1/27/95	3/31/95	Fel-Pro	Math 2	Ainis	8	8	0	0	100%
1/27/95	3/31/95	Fel-Pro	Reading/Writing 4	Ainis	7	7	0	0	100%
2/28/95	4/27/95	Fel-Pro	Math Refresher (2nd shift)	Olivi	3	2	0	1	100%
5/23/95	7/25/95	Fel-Pro	Reading/Writing NNS -A	Oswald	12	12	0	0	100%
5/23/95	7/25/95	Fel-Pro	Reading/Writing NNS - B	Oswald	9	9	0	0	100%
5/24/95	7/21/95	Fel-Pro	Reading/Writing 2	Oswald	4	4	0	0	100%
5/24/95	7/21/95	Fel-Pro	Math 1	Oswald	6	6	0	0	100%
7/12/93	7/16/93	First Chicago	Math	Anderson	12	12	0	0	100%
7/12/93	7/16/93	First Chicago	Math	Anderson	8	8	0	0	100%
7/12/93	7/16/93	First Chicago	Math	Anderson	10	10	0	0	100%
8/2/93	8/6/93	First Chicago	Math	Anderson	10	9	0	1	100%
8/2/93	8/6/93	First Chicago	Math	Anderson	9	7	0	2	100%
8/2/93	8/6/93	First Chicago	Math	Anderson	7	7	0	0	100%
8/2/93	8/6/93	First Chicago	Math	Anderson	13	13	0	0	100%
8/21/93	8/29/93	First Chicago	Math	Anderson	10	9	0	1	100%
8/21/93	8/29/93	First Chicago	Math	Anderson	9	7	0	2	100%
8/21/93	8/29/93	First Chicago	Math	Anderson	8	8	0	0	100%
8/21/93	8/29/93	First Chicago	Math	Anderson	13	13	0	0	100%
8/21/93	8/29/93	First Chicago	Math	Anderson	7	7	0	0	100%
9/20/93	9/23/93	First Chicago	Math	Anderson	15	14	0	1	100%
9/20/93	9/23/93	First Chicago	Math	Anderson	13	13	0	0	100%
9/24/93	10/3/93	First Chicago	Math	Anderson	25	25	0	0	100%
9/30/93	10/3/93	First Chicago	Math	Anderson	20	20	0	0	100%
11/30/93	12/21/93	First Chicago	Reading/Critical Thinking	Woodruff	3	3	0	0	100%
1/10/94	1/13/94	First Chicago	Math	Anderson	7	6	0	1	100%
1/10/94	1/13/94	First Chicago	Math	Anderson	8	8	0	0	100%
1/27/94	2/4/94	First Chicago	Math	Anderson	7	7	0	0	100%
1/27/94	2/4/94	First Chicago	Math	Anderson	4	3	0	1	100%
1/29/94	2/6/94	First Chicago	Math	Anderson	8	7	0	1	100%
1/29/94	2/6/94	First Chicago	Math	Anderson	6	6	0	0	100%
2/14/94	2/18/94	First Chicago	Math	Anderson	6	6	0	0	100%
2/14/94	2/18/94	First Chicago	Math	Anderson	3	3	0	0	100%
2/14/94	2/18/94	First Chicago	Math	Anderson	3	3	0	0	100%

Chart F Courses by Site

Start Date	End Date	Site	Course	Instructor	Total # Students	Successes	More Training Needed	Drops	% of Success
2/19/94	2/27/94	First Chicago	Math	Anderson	7	7	0	0	100%
2/19/94	2/27/94	First Chicago	Math	Anderson	9	9	0	0	100%
6/6/94	8/22/94	First Chicago	Rading/Writing	Woodruff	14	14	0	0	100%
6/27/94	7/8/94	First Chicago	Reading Refresher	Woodruff	14	14	0	0	100%
6/27/94	7/8/94	First Chicago	Math Refresher	Jones	14	14	0	0	100%
7/26/94	9/27/94	First Chicago	Business Writing I	Woodruff	4	4	0	0	100%
10/3/94	10/10/94	First Chicago	Math	Jones	11	11	0	0	100%
10/3/94	10/10/94	First Chicago	Math	Jones	7	7	0	0	100%
10/3/94	10/10/94	First Chicago	Math	Jones	7	7	0	0	100%
10/3/94	10/7/94	First Chicago	Math	Mrowicki	8	8	0	0	100%
10/3/94	10/7/94	First Chicago	Math	Mrowicki	8	8	0	0	100%
7/26/94	9/27/94	First Chicago	Business Writing I	Woodruff	6	6	0	0	100%
10/21/93	2/7/94	Irmco	Writing/Math	Poindexter	2	2	0	0	100%
10/21/93	2/7/94	Irmco	Reading/Writing	Ainis	4	4	0	0	100%
4/11/94	6/9/94	Magnetic Insp.	Reading/Writing 1	Oswald	10	9	0	1	100%
4/26/94	5/19/94	Magnetic Insp.	Reading/Writing Refresh	Oswald	8	8	0	0	100%
7/12/94	9/1/94	Magnetic Inspec.	Reading/Writing II	Oswald	5	5	0	0	100%
7/12/94	9/1/94	Magnetic Inspec.	Reading/Writing III	Oswald	4	4	0	0	100%
10/4/94	11/22/94	Magnetic Lab	Reading/Writing	Oswald	8	8	0	0	100%
8/22/94	10/24/94	PK Tool	Tech. Reading	Gallo	11	7	0	4	100%
10/10/93	12/8/93	Pyramid	Reading/Writing	Considine	7	5	0	2	100%
3/21/94	5/11/94	Pyramid	Math	Keefe	8	8	0	0	100%
1/18/94	3/17/94	R. Olson	Reading/Writing	Irizarry	7	6	0	1	100%
10/20/94	11/9/94	R. Olson	Document Orient.	Katrakis	7	7	0	0	100%
12/13/94	12/22/94	R. Olson	Document Orient.	Katrakis	6	6	0	0	100%
9/27/94	10/13/94	R. Olson	Document Orient.	Katrakis	7	7	0	0	100%
10/18/94	11/3/94	R. Olson	Document Orient.	Katrakis	7	7	0	0	100%
12/20/94	12/29/94	R. Olson	Document Orient.	Katrakis	12	12	0	0	100%
9/28/93	11/30/93	Redi-Cut	ESL	Schnell	13	12	0	1	100%
12/6/93	2/7/94	Redi-Cut	ESL	Janus	13	11	0	2	100%
6/21/94	8/2/94	Redi-Cut	ESL 1	Locsin	11	9	0	2	100%
6/21/94	8/2/94	Redi-Cut	ESL	Locsin	9	8	0	1	100%
9/27/94	12/22/94	Redi-Cut	ESL for Supervisors	Newman	10	9	0	1	100%
9/20/93	12/8/93	Tapes Unlimited	ESL I	Newman	17	17	0	0	100%
9/21/93	12/9/93	Tapes Unlimited	ESL II	Fogel	16	12	3	1	80%
1/3/94	3/23/94	Tapes Unlimited	ESL	Fogel	7	2	0	5	100%
2/1/94	4/21/94	Tapes Unlimited	ESL III	Newman	10	5	1	4	83%
2/14/95	4/13/95	Trans Union	ESL	Newman	14	14	0	0	100%
1/10/94	3/6/94	Viking	Math I	Taylor	8	8	0	0	100%
1/14/94	1/21/94	Viking	Math II	Taylor	8	8	0	0	100%

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Chart F: Courses by Site

Start Date	End Date	Site	Course	Instructor	Total # Students	Successes	More Training Needed	Drops	% of Success
1/21/94	1/28/94	Viking	Math II	Taylor	3	3	0	0	100%
5/9/94	7/18/94	Viking	ESL	Taylor	7	7	0	0	100%
12/7/93	3/15/94	Wells	Writing	Mansoori	15	10	0	5	100%
12/7/93	3/15/94	Wells	Writing	Mansoori	9	9	0	0	100%
8/24/93	10/26/93	Wilton	Reading/Writing I	Poindexter	9	8	0	1	100%
11/1/93	1/19/94	Wilton	Reading/Writing II	Woodruff	9	7	0	2	100%

IV. Report on any dissemination activities.

Dissemination activities consisted of making presentations, publishing information about the project, and disseminating publications and curriculum.

Impact on the State Delivery System:
In 1995, THE CENTER - RESOURCES FOR EDUCATION was awarded a state grant from the Illinois Secretary of State's Literacy Office to plan and deliver a Workplace Education Institute. The staff of the Institute, Linda Mrowicki, Douglas Jones, and Laima Schnell, were able to use and apply many of the materials from the USDOE project. In this way, the experiences, strategies, and curriculum were incoporated into a statewide approach to developing workplace education programs.

This training consisted of 40 hours of training and on-site internship. In the initial pilot, 16 participants from 15 programs were trainbed and credentialed from the Illinois Sceretary of State's Literacy Office. A second cycle of training is now being conducted and a third is being planned. The Institute is having ***a direct impact*** on improving the wuality of workplace education programming in Illinois.

Presentations
The following presentations were made to disseminate information about the project as well as to advance the field of workplace literacy:

Mar. 1995: Linda Mrowicki, Director. "It's Easy!!! Cumstomized Workplace Materials without a Lot of Preparation!" Interntaional TESOL Conference.

Jan. 1995: Linda Mrowicki, Director; Consultants/Trainers Douglas Jones, Tess Locsin, Lynn Olivi, Colette Poindexter, Laima Schnell, and Vickie Woodruff presented a two-part presentation on Effective Basic skills programs at the Statewide Illinois Literacy Conference.

Jan. 1995: Linda Mrowicki, Director and Jeanette Devane, AVON Products, and Tamara Baloun, First Chicago Corporation, presented on the cross-over between basic skills among different industries at the Statewide Literacy Conference.

May 1994: Consultants/Trainers Douglas Jones, Tess Locsin, Lynn Olivi, Colette Poindexter, Laima Schnell, and Vickie Woodruff presented a two-part presentation on Effective Basic skills programs.

May 1994: Linda Mrowicki, Director, and Douglas Jones, Consultant, participated in a panel at a state-wide Workplace Literacy Conference. The title of the presentation was "If They Work Together, Shouldn't They Learn Together? Cooperative Learning Models for Workplace Literacy Programs."

Mar. 1994: Linda Mrowicki presented an overview of basic skills programs to staff at El Camino Community College in California.

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Feb. 1994: Linda Mrowicki chaired a panel at a statewide workplace education conference. The topic was on the integration of basic skills programs into the company strategies.

1993: Linda Mrowicki, co-presented three two day Train - the -Trainer workshops on How to Conduct Literacy Job Task Analysis and Develop Curriculum in Florida.

Oct. 1993: Linda Mrowicki served on a panel of workplace literacy providers at theMO Literacy Investment for Tomorrow's state conference.

Dec. 1993: Linda Mrowicki, Douglas Jones and Colette Poindexter presented on the components of Basics Skills Programs to the Chicago Chapter of the American Society of Training and Development.

Dec. 1993: Linda Mrowicki co-facilitated a curriculum working group for the Colorado State Community College System workplace ltieracy project.

Nov. 1993: Douglas Jones was featured on "This Week With 32", a local TV station that addressed the need for basic skills programs in the workplace.

Summer 1993: Colette Poindexter was featured on CBS News "Eye On America" that examined successful basic skills programs.

Linkages:
Douglas Jones, serves on the Train America's Workforce Committee of the Chicago Chapter of the American Society for Training and Development. This committee membership facilitates the inclusion of basics skills issues in the organization's annual training plan.

Douglas Jones and Laima Schnell are members of the Illinois Workplace provider group which meets bi-monthly to discuss common issues and concerns in workplace education.

Fall 1993: The project was selected as a model demonstration site for the identification of best practices in workplace basic skills programs by the University of Illinois - National Center for Research in Vocational Education. The program results and best practices will be disseminated through the U of I - NCRVE work.

Publications
The project was referenced in a CCASTD article about basic skills programs in May-June 1994 and in the Jan. - Feb. issue of ACTION - A Bimonthly Update from the Chicagoland Chamber of Commerce.

An article entitled "Best Practices: Experiences from the Workplace Education Division of THE CENTER-RESOURCES FOR EDUCTAION was submitted in Sept. 1994 to Pelavin Assoiates to be invluded in a monograph published by AAACE.

In addition, the project disseminated brochures and information about its services upon request by both phone and by mail. The project also distributed approximately 120 copies of its workplace publications to people in the field.

V. Report on any evaluation activities.

The project maintained data on a quarterly basis. This data was used to internally monitor progress on achieving its goals. A copy of the final quarterly report follows after this page.

The external evaluator's report can be found under separate cover.

VI. Report on any changes in key personnel.

There were no changes in key personnel.

Workplace Education Division of THE CENTER - RESOURCES FOR EDUCATION/Community Consolidated School District #54
Manufacturing Industries and Financial Institutions of
Cook County and Greater Chicago

WORKPLACE LITERACY PROJECT

External Evaluation Report
FINAL REPORT

Prepared by
Jorie W. Philippi

December, 1995

Performance Plus Learning Consultants, Inc.
6 California Avenue
Charleston, WV 25311-2201

(304) 343-6861 FAX 304-342-4996

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Introduction

Background: The Workplace Education Division of THE CENTER - RESOURCES FOR EDUCATION /Community Consolidated School District #54 in Des Plaines, IL, in partnership with nineteen manufacturing firms and two financial institutions of Chicago and Cook County, was funded initially by an 18-month grant award from the U.S. Department of Education and local resources to provide workplace literacy services for employees of the partner companies. The workplace basic skills programs, entitled "Project Workplace Literacy Partners," and housed on-site at the various plants and banking facilities, operated as a national workplace literacy project demonstration from July 1, 1993 through September 30, 1995, including a 9 month no-cost extension, to determine the effectiveness of THE CENTER's proposed workplace applications of basic skills training model.

The need for this project grew from a recognition by local adult educators and businesses and industries that the pressures of competition in a global marketplace have accelerated the pace of change in workplace environments and the need for improved quality and customer service. For the manufacturing organization partners, preliminary needs assessment indicated that 100% of the partnering companies were in the process of adopting Statistical Process Control (SPC) methodology to monitor product quality, and that 95% were using or planning to use team problem-solving approaches requiring all employees to communicate in English and to read manuals and job aids written at a 6th-7th grade level. Preliminary assessments of the employees of these organizations, using the Test of Adult Basic Education and a modified version of the Basic Inventory of Natural Language (BINL) [English proficiency] Test, showed that 50-60% lacked the basic math skills to perform required SPC functions, 30-40% lacked the English communication skills needed for team problem-solving, and 40-50% lacked the reading skills necessary for use of company manuals and job aids. For the banking industry, preliminary needs assessment indicated that the partnering organizations required direct customer contact in all front-line jobs, communication in English to fully participate in team problem solving, applied math and charting skills to track production through Total Quality Management (TQM) practices, and reading of company manuals and job aids written at an 8th grade level of difficulty. Preliminary assessment of bank employees showed that 40% lacked writing skills needed to participate in TQM practices and 50% lacked those reading skills needed to process company training materials, manuals, and job aids.

In order to provide a well-trained local workforce that will keep the greater Chicago area and Cook County economically healthy, the partners perceived a need for something more than just technical training courses for workers in manufacturing and banking jobs. Improving the earning power and job stability of the local labor pool ensures full consumerism and the retention of a strong corporate employer tax base, which in turn bolster the local economy. Because technical training-specific courses and traditional education often do not give workers a broad-based knowledge of the team communication, problem-solving, critical thinking and learning-how-to-learn concepts and competencies needed in today's workplace, THE CENTER and its business partners determined the need for instructional programs that would provide local employees with workplace basic skills applications that are transferable and adaptable to their changing, increasingly demanding work environments. Seven of the 21 partnering companies were unionized.

Prior to the grant funding, in the early 1990s, THE CENTER had begun discussions with local manufacturers and financial institutions to foster the sharing of information and to clearly define local worker needs and agency responses. This careful exploration of possibilities resulted in their partnering to apply for federal grant monies for provision of on-site basic skills programs to complement company quality and customer service training courses. Helping with the project also were Northern Illinois University-Business and Industry Services which assisted with initial site contacts and literacy task analyses; the Illinois Manufacturers' Association, Small Manufacturers' Action Council and the Illinois Secretary of State Literacy Office, both of which assisted with coordinating sites and activities. Administrators representing company training and worker education departments met with THE CENTER developers to ensure that the customized programs directly related to the competencies needed for their individual company training courses and responded to the needs of the targeted worker participants. To this end, the education agency/business partnership members were committed to gathering data for performing a "front-end analysis" in order to assess the basic skills needs of targeted trainee-participants. They also determined program goals, scope of individual company-related content areas, length, schedules, recruitment and implementation plans. This cooperative relationship continued throughout the funding cycle.

The developers of the programs, workplace education specialists who are THE CENTER's professional staff of curriculum consultants and instructors having numerous advanced degrees and many years of experience in writing and teaching, then custom-designed, created, and delivered the instructional programs. Complete participant assessment procedures and strong, company-specific functionally contextual basic skills training programs were implemented and refined during the grant period. THE CENTER, as the grant financial manager, contracted with Performance Plus Learning Consultants, Inc. to serve as a third-party evaluator throughout the project.

Purpose of the Evaluation: The Workplace Education Division of THE CENTER has requested this third-par evaluation of their U.S. Department of Education Workplace Literacy Demonstration Project to assess 1.), the extent to which the project's goals and objectives have been accomplished, and 2.), the extent to which program development, implementation, expansion, and institutionalization proceeded as planned. This report emphasizes those activities conducted during the cycle of funding which concluded on September 30, 1995. Specifically, the evaluation objectives to be investigated were:

- on-going identification of the program's strengths and areas still needing any improvement throughout the life of the project;

- evidence of improvement of productivity and efficiency of 19 medium and small manufacturers and 2 financial institutions by provision of workplace literacy to those workers lacking the basic skills required for their jobs through:
  - establishing Employer/Employee Basic Skills committees;
  - conducting literacy audits to identify applied basic skills and competencies for targeted jobs;
  - developing/selecting assessment instruments;
  - developing customized competency-based curricula and classroom instructional materials;
  - establishing centralized learning labs utilizing customized software and individualized instruction for small business clusters;
  - selecting and training 15 workplace literacy instructors on an as-needed basis;
  - recruiting, pretesting, and counseling of 2400 employees; and,

- scheduling of 100 classes to provide instruction for 1933 employees;

- evidence of the development and use of record-keeping and documentation systems, including collection, interpretation, and reporting of data on program development and implementation activities and on individual progress of participants;

- evidence of impact of delivered applied basic skills instruction on individual companies; and,

- evidence of improvement of the capacity of educational providers to meet the basic skills needs of manufacturers and financial institutions through:

  - development, production, validation, and dissemination to other adult learning centers and the educational community of basic skills curricula for TQM-oriented manufacturers and for the financial services industry.

Description of the Project to be Evaluated: THE CENTER's Workplace Literacy Project consisted of a workplace literacy training partnership formed between THE CENTER, Northern Illinois University-Business and Industry Services, 19 small and mid-sized manufacturing companies, and two financial institutions. According to the published description of the program, the design of the project was structured to meet workers' job-specific basic skills application needs in manufacturing and banking, through the development of functionally contextual curricula. On-site investigation and job analysis conducted by project staff resulted in the development of customized curricula and instructional delivery formats tailored to meet the various employer/worker needs of the partnering companies. A brief description of the program follows:

> On-site job-linked and general math, reading, and writing instruction, along with English as a Second Language training was offered as individualized, small group classroom instruction, using custom-developed training modules. THE CENTER began project operations on July 1, 1993 and continued operations through September 30, 1995. Classes were conducted on-site for individual companies.

Participants numbered from 2 to 28 per session. Overall, during the funding cycle, 2407 employees partook of pre-assessment services and 1526 employees from 21 different area companies participated in at least one strand of the basic skills upgrading programs. One hundred sixty-six classes were offered, with an average retention rate of 98.7%. Courses were approximately 34 hours each in length, with the normal delivery format being two hour classes conducted twice per week over an eight week term. Individual companies offered from 1 to 38 courses with 7.9 as the average number of courses per company. A total of 36,820.75 contact hours were provided by THE CENTER staff. Some companies provided instruction on clock time, others on partially reimbursed time, others on an employee volunteer basis. Partner matching funds were $59356.63 and release time for employees participating in programs was valued at $569,860. Participating companies included the following organizations:

Aallied Die Casting Co.
Austin Continental Industries
Avon Products, Inc.
E.J. Brach Company
Cast Products
CJ Saparito
FABSCO Corp.
Fel-Pro Inc.
First Chicago Corporation
IRMCO
Magnetic Inspection Lab
P-K Tool & Manufacturing Co.
Pyramid Northern Mouldings
R. Olson Manufacturing
Redi-Cut Foods
E. J. Sommerville
Tapes Unlimited, Inc.
Trans Union Check Credit Information Corporation
Viking Metal Cabinet Co.
Wells Manufacturing Co.
Wilton Tool Co.

An expansive list of customized curricula was developed and integrated with workplace technical training. Customized modules were built around sets of core competencies and skills, derived from the results of literacy task analyses used to identify support basic skills applications common to the performance of critical tasks in each company. The customized instructional materials consist of print material course modules, comprised of learner handouts for series of approximately 16 two-hour lessons. Print modules include learning skill objectives stated as workplace competencies, practice exercises, and application problems. Pretests and posttests were also developed for individual company applied skill competencies. Several pilot lessons in math and reading were reportedly developed for computer delivery by two of the 21 companies, but were unavailable for the external evaluator to examine. All customized instruction contained work-specific examples for participants to use as vehicles for learning job-linked literacy skills used by manufacturing and banking workers and trainees.

The core competencies and core skills identified from extensive workplace literacy task analyses were described by THE CENTER in published descriptions as those listed below. Each core competency represents "a demonstrated ability to perform a task successfully" and "meets the following criteria: 1.), has a verb which indicates a demonstrated ability; 2.), is in a work skills context; and, 3.), involves basic skills. The competencies are generic in nature and can be adapted to account for the specific needs of a particular [company]," (Mrowicki *et al*, 1992). The core skills are each "discrete and can be practiced within a variety of competencies. Successful performance of a competency often hinges on a learner's ability to perform a series of skills....Core skills play a major role in both the development of curriculum and in lesson planning....[In] curriculum development, it is important to identify which skills are used in the performance of a competency....In planning actual instruction, a teacher needs to incorporate these skills into the lesson plan. The skills need to be introduced and practiced sequentially....A teacher will also want, from time to time, to spiral skills and show how they may be transferred to other contexts," (*ibid*).

Workplace Reading Core Competencies: The core competencies focus on the type of written material a manufacturing or banking employee is likely to read. This includes such materials as signs, job aids, and training materials.

- Read a sign
- Read a label
- Read a list

- Read a TO DO list
- Read a schedule
- Read a form
- Read a paycheck/stub
- Read a memo
- Read a checklist
- Read a basic list of instructions
- Read a procedural memo
- Read an informational memo
- Read an agenda
- Read a map
- Read a floor plan
- Read a training manual
- Read a procedural handbook/manual
- Read a newsletter
- Read a chart
- Read a diagram
- Read a timeline
- Read a flow chart
- Read a bar graph
- Read a circle graph
- Read a histogram
- Read a simple line graph
- Read a complex line graph with upper and lower limits and/or a baseline

Workplace Reading Core Basic Skills: These skills include matching and comparing/contrasting such elements as numbers and codes, reading technical and non-technical vocabulary, scanning and skimming for information, accessing information from reference materials, and cross-referencing documents.

- Match numbers
- Match letters
- Match words
- Match alpha-numeric codes
- Read alpha-numeric codes
- Read an abbreviation and know the referent

- Read a symbol and know the referent'
- Read an acronym and know the referent
- Read dates
- Read times
- Compare/contrast numbers
- Compare/contrast symbols
- Compare/contrast alpha-numeric codes
- Sequence alpha/numeric codes
- Read whole numbers
- Read up to three place decimals
- Read fractions
- Read amounts of money
- Read weights
- Read signs
- Read dimensions
- Read technical vocabulary
- Read non-technical vocabulary
- Locate a word or term in an alphabetical list
- Determine the meaning of an unfamiliar word from context
- Read information aloud comprehensibly
- Scan for information
- Skim for information
- Read columns and rows
- Read subcolumns and/or subrows
- Access a legend to read a document
- Access a title block to read a blueprint
- Access a table of contents
- Access a glossary to find a definition
- Access a dictionary to find a definition
- Use an index
- Access appendices
- Access headings and subheadings
- Cross-reference documents
- Cross-reference charts with narrative
- Locate references mentioned elsewhere in a text
- Read for literal comprehension

- Read for inferential comprehension
- Read for critical comprehension

Workplace Writing Core Competencies: These competencies include filling out various materials such a s forms, schedules, and logs; taking notes; and, writing various narratives such as s suggestions or minutes from a meeting. It is important to note that often writing and reading competencies are intertwined and are thus introduced, practiced, and evaluated at the same time.

- Fill out a simple form
- Fill out a complex form
- Fill in a schedule
- Fill in a log
- Fill in a chart
- Fill in a line graph
- Write a memo
- Write a list of instructions
- Write a description of a problem
- Write a suggestion
- Write a solution
- Write minutes from a meeting
- Take notes during verbal training
- Take notes on written materials
- Take notes at a meeting

Workplace Writing Core Basic Skills: These skills include copying and/or writing such information as codes, numbers, and abbreviations; writing phrases, sentences, paragraphs, and using correct punctuation and capitalization.

- Copy codes
- Copy numbers
- Copy written words, sentences, etc.
- Write numbers
- Write amounts of money
- Write times
- Write dates
- Write an address
- Write basic personal information

- Write common words
- Write technical words
- Write abbreviations
- Write a simple sentence
- Write a complex sentence
- Write a phrase(s) to express an idea (*e.g.*, machine broke down-7:30)
- Write a paragraph
- Use correct punctuation and capitalization

Workplace Math Core Competencies: Math competencies are critical to all...jobs. The competencies include calculating piecework wages or numbers of parts produced, measuring sizes or weights of objects, estimating numbers of parts completed, and plotting points on an SPC chart.

- Calculate piecework wages
- Measure the size of an object
- Check amount of pay and deductions for accuracy
- Calculate averages for SPC chart
- Plot points on an SPC chart
- Calculate weight
- Estimate amounts of supplies needed to complete a task
- Calculate number of parts scrapped
- Estimate number of parts completed during a specific time period
- Calculate number of parts completed during a specific time period
- Estimate amount of time needed to complete a task
- Calculate amount of time needed to complete a task.

Workplace Math Core Basic Skills: Math skills can be considered as mathematical operations. They range from comparing whole numbers (distinguishing which number is greater than another) through performing the four mathematical operations (addition, subtraction, multiplication, and division) over whole numbers, fractions, and decimals. The math list also includes adding and subtracting percents, converting from one numerical form to another, and converting standard measurements to metric measurements.

- Count
- Compare whole numbers (greater than, less than)
- Compare fractions

- Compare decimals
- Compare percents
- Compare units of measurement such as time, weight, volume, etc.
- Add whole numbers
- Subtract whole numbers
- Multiply whole numbers
- Divide whole numbers
- Add fractions
- Subtract fractions
- Multiply fractions
- Divide fractions
- Add decimals
- Subtract decimals
- Multiply decimals
- Divide decimals
- Calculate percents
- Add, subtract, multiply divide units of measure such as time, weight, volume, etc.
- Divide whole numbers and leave remainders
- Divide whole numbers and show remainders as fractions or decimals
- Round off numbers
- Convert fractions to whole numbers
- Convert decimals to fractions
- Convert fractions to decimals
- Measure inches and fractions of an inch
- Measure in metric system
- Convert metric weight to pounds and ounces
- Convert pounds and ounces to metric weights
- Convert inches to metric units
- Convert metric units to inches

Workplace Oral Communication Core (ESL) Competencies: These competencies were found to be critical to job performance.... This listing limits the competencies to ORAL interaction. Competencies to develop reading/writing skill for ESL workers are found in the Reading and Writing [lists above].

Examples of the competencies found in this section include describing the production process, asking clarification questions, and following instructions.

- Identify products and departments of a company
- Describe production process
- Follow instructions to carry out a simple task
- Respond appropriately to supervisors' comments about the quality of work on the job, including mistakes, working too slowly, incomplete work, or a job well done
- Request the supervisor to check work
- Report completion of a task to the supervisor
- Request supplies
- Ask where an object is located
- Follow and give simple oral directions to locate an object or place
- State a problem and ask supervisor or co-worker for help as necessary
- Respond to an inquiry as to nature of the current task; state amount and type of work already completed
- Identify substandard products and the reasons
- Clearly state that something has been/has not been understood
- Repeat to verify that something has been understood
- Ask someone to repeat more slowly or to repeat something
- Report errors on paycheck or piecework form
- Respond to request to work a particular shift or schedule
- Report unsafe conditions to supervisor
- Communicate emergency situation
- Give appropriate reason for absence or tardiness in person or on the phone
- Request permission to take time off, leave early, or change a work schedule
- Orally apply for a job promotion or transfer
- Initiate and respond to greetings and farewells
- Ask and answer questions about personal background, family, daily activities, weekly routines, and weekend activities

Workplace Oral Communication (ESL) Core Language Forms: Language skills are often defined as listening, speaking, reading, and writing. These skills are addressed in curriculum through the competencies within the content areas. Two

other components of language, vocabulary and grammatical structure, must also be taken into consideration when discussing language. Because vocabulary is highly dependent upon the specific industry, the project felt that it was not appropriate to identify core words. Vocabulary is addressed on a case by case basis in the job task analysis and in the customized curriculum development. While the program strongly advocates language acquisition and the introduction and practice of language in a meaningful context, one must recognize the role of grammatical structures. The list of grammatical structures is NOT intended to be used as instructional content *per se*. The intent is to provide a list of structures which are commonly used and which the worker must be familiar with in order to accomplish the task. The instructor can refer to the list when selecting structures which are appropriate to the level of students and when making decisions regarding which structures the students should be able to comprehend and/or produce and the degree of accuracy for that production.

- Adjectives - adjective + noun, demonstrative, indefinite
- Adverbs - of frequency, manner, place, time today, for/since, ago, intensifiers
- Articles - indefinite, definite
- Be - *Be* + adjective, contractions, past tense, present tense
- Embedded questions
- General *you*
- Impersonal subject - it, there is
- Modal verbs - *can, have to, can/may, could/might, should, will, must, supposed to*; Perfect modals - *would, rather, ought to*
- Subordinate clauses - Relative, of cause, of time, of place
- Comparisons (Adjectives) - *-er, more/than, -est, the most, the least*
- Comparisons (Nouns) - *as...as, ...like..., same...as, different from*
- Nouns - count/non-count, possessive(s), singular/plural, gerunds
- Numbers - cardinal, ordinal
- Prepositions - prepositional phrases of place, of time
- Pronouns - demonstrative, indefinite, object, possessive, reflexive, subject
- Questions - negative questions, tag questions, "wh--" questions, yes/no questions
- Reported speech - statement, questions, yes/no questions, imperatives

- Verb tenses - (Affirmative, Negative, Interrogative, Short Answers, Contractions) - present, present continuous, past, imperative future; past continuous, present perfect, past perfect, conditional; passive present, passive past, passive present continuous
- Word Order and Patterns - verb + indirect object + direct object; verb + direct object + to + indirect object; verb + direct object + for + direct object; verb + infinitive; verb + object + infinitive; verb + verb-ing
- Other Grammatical Points - casual "have," suggestions/indirect commands with "let's/let's not;" two-word verbs separable, two word verbs inseparable, interjections, exclamatory.

Sample course materials, listing core competencies to be addressed during instruction, utilizing company-specific materials were as shown in the chart located below. Company input was collected to formulate the list of core competencies for inclusion in each workplace literacy training course. Company materials were utilized as the demonstration and practice components for teaching the competencies in each session.

Example 1: **Fel-Pro ESL Competencies**	**Example 2:** **Avon Reading & Writing Competencies**
1. Communicate emergency situation. 2. Report a job-specific problem to a supervisor. 3. Train someone else to do your job. 4. Engage in social conversation appropriate to the workplace. 5. Submit a problem or an idea to a Forum delegate. 6. Request supplies or tools. 7. Clarify or verify instructions.	1. Write a note to a co-worker. 2. Read and understand a bar graph. 3. Read and understand Avon mini-meeting notes. 4. Ask questions at a meeting. 5. Read the Key Indicator charts. 6. Read and fill out the DF and PS inspection document. 7. Fill out a Job Performance self-review form.

Staff-developed module print materials were desk-top published and laser printed with careful attention to uniformity of format, layout design, graphics and high quality reproduction. No instructor scripts were provided, allowing freedom in delivery and interpretation based on the professional discretion of each individual instructor. Each

instructor occasionally incorporated personal learning materials and activities into the delivery of one or more lessons, as deemed appropriate for specific participants.

Method

Design: The evaluation of the *Project Workplace Literacy Partners* Workplace Literacy Demonstration Project employed a modified version of the Context-Input-Process-Product (CIPP) model, (Stufflebeam & Guba, 1971). This method of evaluation was chosen by the evaluator as the most suitable tool for investigating the evaluation objectives, (see pages 5-6), because it examines project effectiveness through structured analysis of the cohesiveness of project goals, components, and operations, independent from comparisons to outside standards or other programs.

The CIPP model was used to analyze:

- Context (*i.e.*, shared goals and philosophy of key personnel and participants);
- Input (*i.e.*, resources, including personnel, materials, time and facilities);
- Process (*i.e.*, congruence of observed instructional development and delivery with project goals and research on instructional effectiveness); and,
- Product (*i.e.*, indicators of project effectiveness).

It is important to note that, due to geographical considerations, much of the on-site investigation was conducted by project staff and reported to the evaluator during the three site visits or via telephone communications from the Project Director. Additionally, due to the number of partnering companies and limited number of site visits, the Project Director and external evaluator agreed to limit data collection gathered at on-site visits to five of the 21 companies thought to be representative of project operations. Companies selected were from each of the five clusters: medium-sized companies involved in TQM, small business supplier chain companies, small metal-working businesses, small businesses with 100% limited English-speaking workers, and financial institutions. The companies chosen were: Avon Products, R. Olson Manufacturing, Aallied Die Casting Co., E.J. Brach and First Chicago National Bank. Other companies visited at least one

time during on-site investigations by the external evaluator included: Fel-Pro Inc., IRMCO, Redi-Cut, and Tapes Unlimited. Given the cooperative relationship between the Project Director and the external evaluator, it was agreed that any problems or changes in project operations at other sites would be reported to the external evaluator should they occur. No problems or changes were reported. Forms and procedures for use in data collection across sites were developed by both PPLC and project staff.

Participants: The participants in the project were 1526 workers employed by the 21 partnering companies. A brief description of the available composite average participant profile is provided below for reference.

> Hispanic female, 36.1 years of age, employed in manufacturing or banking industry for less than 5 years. (n = 1526 responses)

Participant profiles changed slightly from one program site to another. More detailed demographic information about participants during this funding period is displayed in Figure 1 on the next page.

Figure 1: Demographic Characteristics of Participants (n=1526 responding participants)

Average Age:
36.1 years

Gender:

Male	33.1%
Female	35.1%
(no response)	31.8%

Ethnicity:

White	12.1%
Black	15.5%
Hispanic	31.7%
Asian/Pacific Islander	07.4%
Other	00.9%
(no response)	32.3%

Number of years with company:

0-5 years	48.5%
6-10 years	16.1%
11-15 years	12.7%
16 or more years	22.7%

Limited English Proficiency:

34.7%

[PLEASE NOTE: All participants did not respond to every question.]

Instruments: Data for this evaluation were requested and gathered via post-program participant surveys; structured interviews with participants, instructors and program personnel; formally-documented observations of instructional sessions; and, reports of instructor training. Additionally, data were gathered from detailed analysis by the evaluator of program documentation, instructional materials, and participants' work, (*i.e.*, pre- and post-test scores and participants' records).

Procedure: Following initial telephone and in-person conversations with the Project Director to establish evaluation objectives, the evaluator conducted the activities listed below. Four site visits were made during the funding period on November 30-December 1, 1993, February 1-3, 1994, October 11-12, 1994, and March 14-15, 1995.

1. Development of Evaluation Data Collection Instruments:

   - Forms reviewed and modified for Participant Post-Program Surveys, Instructor Interview, Participant Individual or Focus Group Interview, Classroom Observation, Instructor/ Supervisor Interview, and Program Administrator Interview.

2. On-site consultation with Project Director and Planning Team (curriculum developers) concerning ongoing instructional curricula development and feedback on how to strengthen activities contained in them.

3. On-site interviews with training and project managers, supervisors, instructors, project director, and participants.

4. On-site observations of learning activities during various cycles of instruction.

5. Off-site analysis of materials and data collected from site.

6. Communications and Operations:

   - Contact throughout grant period with project through conversations with Project Director, Linda Mrowicki, to discuss project goals, progress, and evaluation activities and preliminary findings.

   - Final Evaluation Report submitted to Project Director January, 1996.

Results

Project Context:

To what extent are goals and philosophy of the project shared by key project personnel and participants?

This section of the evaluation is a comparison of the project goals and priorities as reported in project descriptions and interviews with key project personnel, including:

- project director;
- business partners from representative companies;
- project curriculum developers;
- project instructors; and,
- participants.

These viewpoints about project goals were analyzed for consensus and divergence.

The published project goals and purposes are contained in the grant proposal submitted to the US Department of Education. They were developed cooperatively following communication between THE CENTER and the partnering companies, prior to applying for the grant monies. Stated goals in the proposal were:

- to improve the productivity and efficiency of 21 companies by providing workplace literacy instruction to workers lacking basic skills required for their jobs; and,

- to improve the capability of educational providers to meet the basic skill needs of the manufacturing and financial service industries by developing customized curriculum and instructional materials.

Project Director and Business Partners - Linda Mrowicki, Project Director, members of THE CENTER, and liaisons from the partnering companies met with the external evaluator early in the project .for a 2-hour session on December 1, 1993.

Companies represented at the meeting were Aallied Die Casting & Manufacturing Co., Avon Products Inc., E. J. Brach Corporation, Fel-Pro Incorporated, First Chicago National Bank, IRMCO, Magnetic Inspection Laboratory, R. Olson Manufacturing Co., Inc., and P-K Tool & Manufacturing Co. The company liaisons were interviewed as a group about their perceptions of program goals and philosophy. All employer representatives listed specific job-related, organizational needs when asked why they chose to participate in the project. They articulated the following project goals:

- to enable incumbent employees to meet new [higher] company standards for new hires, necessary for SPC and related quality training;
- to provide training in English and basic skills to enable employees to work in teams;
- to fill employee requests for skills training that will enable them to cope with the challenges of new computerized equipment and teamwork;
- to reduce and/or eliminate quality document mistakes due to employees whose reading and writing skills are not adequate;
- to enable supervisors and managers to communicate in English with workers;
- to provide workers with skills needed to perform new tasks that meet customer requirements, such as barcode labeling and using new shipping forms;
- to qualify new hires for job requirements because competition is currently stronger for fewer qualified applicants; therefore, must provide basic skills training for new hires in system to bring them up to standards;
- to have a successful demonstration project that becomes an impetus for other local employers to decide to provide workplace literacy training for their employees, too.

During site visits to Avon, Brach, Olson, First Chicago, Aallied, IRMCO, Redi-Cut and Tapes Unlimited, company managers and training department staff members Jeannette Devane, Sandra Endo, Devon Bryan; Rick Orozco, Mike Pfeiffer, Martha Maywer; Evelyn McFeeley, Ronetta DeWitt-Hall; Tamara Baloun; Tom Johnston; Jeff Jeffrey; Linda Frelka; and, Joseph Mrowka participated individually in structured interviews. They expressed the following goals for the project:

- There's a need for basic skills at our company as a foundation on which to build all our other training. When our people see that we're committed to improving basic skills, they're willing to participate in other company programs for improving their technical abilities.

- We need basic English communication skills training to enable our workers to be able to read and understand simple instructions and to participate in problem solving in their work cells.

- We want our workers [line operators] to have the basic skills and English speaking skills they need in order to be able to do their own line scheduling, *i.e.*, what has to be produced, entering data into the PCs, doing SPC graphs, and so on.

- We want our employees to be able to perform basic math functions to increase their participation in quality programs.

- We want our employees to understand the difference between metric and English systems to improve production quality and reduce scrap.

- We'd like this program to improve employees' ability to understand verbal instructions from supervisors and increase their comprehension of and confidence to participate in new [company training] programs.

- Some of our largest customers do customer audits here-- we need our employees to be able to explain our quality procedures in English when the customers visit.

- Our company information has to be read to employees by a supervisor. We want our employees to be able to read about benefits, safety, health, and other issues discussed in department meetings on their own.

- Because of our movement toward a teamwork structure, we need our employees to be able to monitor production and make their own run charts. We also want to see our people be upwardly mobile within the company. This will require them to participate successfully in computer training and other company courses to upgrade their technical and managerial skills.

- We need to have our production forms filled in accurately-- our profits depend on it.

Project Curriculum Developers - were interviewed individually and as a group during one or more of the site visits throughout the entire demonstration period. The goals expressed centered around improving the quality of life for workers and the community. All developers mentioned wanting to impact on participants' self-perceptions, motivation toward lifetime learning, and empowerment to achieve better working relationships with industry employers. THE CENTER staff curriculum developers that worked on instructional materials during this funding period all stated program goals that focused on participants' improvement in basic skills used for competent job performance. Some of the developers specific goal statements included the following:

- to have a program that improves job security for participants;

- to provide participants with something that they can use for future jobs, for life;

- to enable learners to function well in English-speaking technical and math-specific environments by applying skills; if they can't do this, they're at a dead end.

Project instructors - Part-time instructors were interviewed during site visits. All concurred that the emphasis of instruction should be on work-related skills, but that life skill applications should not be omitted. Suggested ideal balances of the two ranged from

75% work-related/ 25% every day life skills to 90% work-related/ 10% life skills. Comments in response to a structured interview question asking about program goals for participants included:

- that participants can succeed at what they are after; when they finish class they should be able to do things they couldn't do before;
- to enable participants to advance in their own job positions;
- improved participant score on tests and demonstrated improvement in ability to handle [work-related] problems; and,
- observed participant success with and/or mastery of instructional materials.

In concurrence with their statements espousing instruction that emphasized work-related skills, all of the instructors were observed using the customized curricula by the evaluator during the site visits.

Participants - Goals of participants were collected in individual interviews during site visits and by project staff throughout instructional cycles. During interviews, participants responded to the question, *"Why did you take this course and what did you want to get out of it?"* with statements that included the convenience of having instruction located at their job sites, the desire for a skills refresher to get back self-confidence, and the need to master English speaking skills to improve job performance.

PPLC collected and analyzed goal statements from the project director, managers, trainers, curriculum developers, instructors, and participants. For a discussion of areas of convergence and divergence, please see the evaluation section, "Summary of Results," under Discussion. PPLC next investigated the input of resources to the project, which is addressed in the next section of the evaluation.

Project Input:

What resources were available to the project during development and implementation and to what extent were they used effectively?

This section of the evaluation addresses major resources of the project. It includes program instructional materials, design and appropriateness for the targeted learner populations; key personnel qualifications and the match between published project duties; and facilities. It also examines the content and processes used for instructor training. The date presented in this section were analyzed for strengths and weaknesses.

Program materials - The instructional materials were designed for use at individual companies after developers conducted literacy task analysis of various targeted job tasks at the beginning of the funding period. Documentation of the literacy task analyses was made available and program developers spoke knowledgeably about the procedures they had used for interviewing and observing employees and company trainers and analyzing materials to determine basic skills applications used in job training tasks performance. Based on discussions with trainers, managers, developers and the program director, the choice of math, reading, writing, and oral communication skills contained in instructional competency and skill objectives was that identified as necessary to support participants' performance of targeted job tasks and procedures. Because the core skills and competencies identified in earlier projects are generic, curriculum developers were able to work from the literacy task analysis conducted during this funding period and expeditiously customize training programs for all of the participating companies, utilizing their company scenarios and materials to develop instruction for company-selected competencies.

Review of the curricula revealed numerous job scenarios and examples taken from workplace situations and/or training materials that supported organizational goals for TQM and customer service. Instructional materials and the workplace examples they contained were reproduced at a high level of quality and were up to date. The commercially-developed materials selected and incorporated by individual instructors for general basic skills, English as a Second Language skill development, and GED preparation addressed enabling skills that supported mastery of the customized curricula.

The ranges of reading difficulty level for the various instructional materials appeared to match the ability levels of targeted participants. Diagnosis of ability levels of targeted course participants was accomplished by means of TABE (Test of Adult Basic Education) tests and project staff-developed functional basic skills tests. These were administered prior to curriculum materials development or delivery to ensure a match between program participant ability levels and planned instruction. TABE and modified BINL tests targeted participant comprehension and performance levels for this funding period, and along with program developer-made tests were used as instructional pre-test instruments for placement of program participants in materials that would be most likely to benefit them. Participants were counseled individually about their learning plans following assessment. The schedule for curriculum development for pretests, posttests and modules called for components to be prepared incrementally across the life span of the funding period. None of the curriculum writers mentioned difficulty adhering to the time lines for deliverable.

When asked about the strengths and weaknesses of instructional materials, the majority of participants thought the content reinforced skills they needed. Based upon data contained in the sampling of post program participant surveys provided to the external evaluator, participants rated the materials at a level of 4.5 on a 1-5 scale, with 5 being the highest.

No instructor scripted guidelines for individual course sessions or overall use and integration of materials were developed; instead, instructors were left to use professional judgment for matching skills and materials with participant needs, based on the assessment instrument scores and company-selected competencies. Variations in instructor communication styles and personalities did not appear to impact on quality of instructional delivery. Instructors provided feedback to THE CENTER curriculum developers on the appropriateness and effectiveness of materials throughout the funding period; and many developers dedicated extra time and effort to piloting their courses in worksite classroom settings or served as site coordinators, as well.

Key Personnel- Requirements for project personnel were listed by both job descriptions and by competencies in the grant application. THE CENTER requires the project director to:

- hire and supervise staff;

- coordinate the development of curriculum, lesson plans, and assessment instruments;
- maintain records and analyze data;
- monitor subcontractor performance;
- provide staff inservice;
- evaluate the success of the project;
- monitor the project's progress; and,
- initiate, maintain, and encourage communication and cooperative linkages between appropriate federal, state, and local agencies, and business and industry.

Qualifications for this position include a Masters degree in ESL and administration, along with a minimum of 15 years experience in adult education instruction, program administration, and/or curriculum development and knowledge of all aspects of workplace literacy programming. The Project Director for this project met these requirements and conducted the activities listed above.

Full time site coordinators/instructors for THE CENTER report to the Project Director and are expected to:

- conduct job and basic skills audits;
- identify literacy problems through workplace interviewing of staff and observation of employees;
- recommend training and non-training solutions to basic skills problems;
- establish workplace literacy instruction on site;
- work with business contacts to decide on classroom space, materials, and scheduling of classes;
- maintain communication throughout the cycle with business contacts;
- maintain participant files on THE CENTER data base;
- administer tests measuring skill levels in language, math, reading, and writing to participants;
- design and administer company- and job-specific tests;
- design competency-based curriculum specific to the workplace;
- teach 4-6 hours per week of reading, writing, math, and ESL for the workplace;

- hire and train part-time staff in delivery of competency-based workplace instruction; and,
- supervise part-time instructors through formal observations during instruction.

Qualifications for site coordinator/fulltime instructor include a Bachelor's degree in ESL, linguistics, or a related field, along with a minimum of 5 years teaching experience, experience working in workplace literacy, and familiarity with people from different cultures. The project fulltime instructor/site coordinators for this project met the requirements and performed the duties listed above.

Project THE CENTER part-time instructors are required to:

- design workplace instructional units, based on specific competencies, including the steps of
  - introduction
  - presentation
  - practice
  - communication
  - evaluation of learning;
- plan and teach at least one component of workplace literacy courses, including reading, writing, ESL, and math;
- maintain attendance, placement, and progress records for participants;
- develop, administer and score assessments and post-tests;
- group employees according to needs and proficiency;
- create audio-visual aids and worksheets to supplement instruction;
- select appropriate texts to supplement instruction; and,
- participate in training sessions.

Qualifications include a Bachelor's degree in ESL, linguistics or a related field, along with 2 years teaching experience, experience working in workplace literacy, and familiarity with people from different cultures. The part-time instructors for this project met the requirements and performed the activities listed above.

Project instructors and site coordinators all were seasoned teachers and professionals with expertise and years of experience in workplace and adult basic

education, English as a Second Language in the U.S. and abroad, Peace Corps, business and industry training and developmental studies. Instructor and developer credentials and experience included Master's degrees plus with studies in Education, Linguistics, Foreign Language Studies, Business Management, and Specialized Educational Development for Mentally and Physically Handicapped. Most hold teaching certificates and all have multiple years of teaching experience with adults. All site coordinators had previous experience with creating functional context materials for workplace instruction. Most of the developers commented on the positive aspects of learning new techniques and of having compensated time for development and refinement of the materials to be delivered.

The project director, Linda Mrowicki, has a Masters degree in Teaching ESL, an MBA, and extensive experience in adult education, project planning and management. Ms. Mrowicki's credentials include a lengthy list of project directorships, work in the area of adult learning and program administration, and publications.

Facilities Instruction was conducted on site at the various partnering companies. Each company provided an area appropriately furnished in an environment conducive to learning. One company built a special, centrally located training area in which to house the program. Others provided refreshments for workers attending each session. Facilities observed during site visits by the external evaluator all appeared well lit and conveniently located, with adequate accommodations for conducting individualized and group learning activities and counseling.

Instructor Training- An initial 6 hour preservice training, as well as 2 hours of inservice training per month was proposed for the project site coordinators/instructors and for part-time instructors. The purpose of these sessions was to convey information to project staff about THE CENTER's functionally contextual, competency-based approach to workplace literacy, the development and delivery of workplace literacy curriculum, and administration and interpretation of assessment instruments and participant scores. Length and frequency of actual inservice training sessions was not made known to the external evaluator, but all instructors and site coordinators appeared well-versed in the development and delivery of functionally contextual, competency-based workplace basic skills and ESL instruction and in administration and interpretation of assessment and mastery tests for the programs. Based upon classroom observations performed during site visits by the external evaluator, it appeared that rapport with participants, adherence

to company policies, instructional management, and project record-keeping were being accomplished competently and in accordance with project plans, philosophy, and policies.

For a discussion of strengths and weaknesses of available project resources and the effectiveness of their use, see "Summary of Results" under Discussion section of the evaluation. The next section of this evaluation examines the process of project delivery.

Project Process:

To what extent were program development and observed instruction congruent with project goals and research on instructional effectiveness?

Instructional Development-Literacy audits were conducted at each of the participating companies by THE CENTER staff and associates (NIU). Staff visited companies several times to interview various levels of managers and their employees. Company training objectives were elicited from production and line managers during focus group meetings, and skills required to master the objectives were identified by THE CENTER staff following analysis of notes. Additionally, THE CENTER staff interviewed HRD managers, upper level managers, and quality managers. Job materials were collected by THE CENTER staff during visits and later analyzed by determining readability difficulty grade levels for each document and identifying math skills required for completion of job tasks. Information from interviews about job tasks and training was also analyzed to determine language functions and required levels of proficiency. Brief job observations were also conducted during site visits by THE CENTER staff. Following assessment of sample populations or targeted worker groups within the company, THE CENTER staff identified and quantified gaps between worker skill levels and estimated skill levels required for job performance and/or mastery of company training programs. A report was issued to each participating company; it contained an overview of the organization, summary descriptions of job and/or quality monitoring tasks and THE CENTER analysis of those basic skills required to perform them, the readability difficulty grade levels of analyzed company documents and printed materials, brief reviews of staff observations about the use of basic skills within the company, and program recommendations.

Literacy audits and assessments were conducted and completed at 19 and 17 of the 21 partnering companies, respectively, according to the project schedules submitted to the evaluator and displayed on the next two pages:

Company	Dates of Literacy Audits & Completion
Aallied	July-September, 1993
Austin Continental	(no report of audits or completion)
Avon	October-December, 1993
Brach's	July-September, 1993
Cast Products	April-June, 1994
CJ Saparito	July-September, 1993
FABSCO	(no report of audits or completion)
Fel-Pro	July-September, 1993
First Chicago	July, 1993-June, 1994
IRMCO	July-September, 1993
Magnetic I Lab	January-March, 1994
P-K Tool	January-March, 1994
Pyramid	July-September, 1993
R. Olson	July-September, 1993
Redi-Cut	July-September, 1993
Sommerville	July-September, 1994
Tapes Unlimited	July-September, 1993
Trans Unions	Oct. - December, 1994
Viking	July-September, 1993
Wells	October-December, 1993
Wilton	July-September, 1993

Company	Dates of Assessments & Completions
Aallied	October 1993-June, 1995
Austin Continental	(no assessments or completions reported)
Avon	October, 1993-September, 1994
Brach's	July, 1993-June, 1994
Cast Products	January, 1995-June, 1995
CJ Saparito	July-December, 1993
FABSCO	(no assessments or completion reported)
Fel-Pro	July-December, 1993
First Chicago	July, 1993-September, 1994

Prepared by Performance Plus Learning Consultants, Inc.
December, 1995

IRMCO	July-September, 1993
Magnetic I Lab	January-March, 1994
P-K Tool	January-March, 1994
Pyramid	October, 1993-March, 1994
R. Olson	October-December, 1993
Redi-Cut	July, 1993-June, 1994
Sommerville	(no assessments or completion reported)
Tapes Unlimited	July-September, 1993
Trans Union	Oct. - December, 1994
Viking	October-December, 1993
Wells	October-December, 1993
Wilton	July-September, 1993

Following completion of the literacy audit report and assessments at each site, curriculum for that site was developed around the core workplace skills and competencies identified as needed. Materials were geared toward the ability levels of the participants.

Instructional Organization-Two thousand four hundred and seven employees of the partnering companies were assessed with the TABE test and or BINL test. In addition, customized competency-based workplace skills tests were developed and administered as pre-program instruments. Instructors then used the results to diagnose participant needs and tailor available instructional materials to best meet the needs of individual participants with selected skill content materials at appropriate levels of placement. No guidelines were developed for local progress criteria or indicators other than the grant-stipulated goal of "successful completion."

Instructional sessions held during the project were usually of approximately 2 hours duration and met twice per week, at times determined by each site. Individual participant records were observed to be up to date and included test scores, attendance, and class success rate percentages.

The nature of instruction and types of learning activities were determined through observation as well as interviews with both instructors and learners. Both learners and instructors reported that approximately 85% of instructional time was spent working in groups, and 15% of time spent working independently. Records from instructional

session observations by the evaluator indicated an average of 20% of instructional time was spent in one-on-one instruction with participants and 30% in whole group explanations. This compares favorably with an ideal of 50% or less teacher-talk during any one instructional session (Goodlad). On-site interviews and observations occurred three times during the middle phase of the project.

Instructional Engaged Time- Participant engaged times during observations was quite high. Most participants appeared to want to learn, seemed to enjoy moving through the instructional units, and spent 85%-95% of time in the classroom actually working on oral or paper-pencil exercises, or with the instructors. The program participant engaged time and interaction with instructor(s) compares well with engaged times of 40%-50% reported for observations of high school classrooms (Mikulecky). Adult learners came ready to work and managed twice as much effort per hour as adolescents manage in school rooms.

Instructional Quality- The quality of instruction provided by the materials has been discussed earlier in the Input section of this evaluation. It was, for the most part, quite high. All of the five instructors observed had established good rapport with learners and took an active role in monitoring learner progress, encouraging learners, and providing explanations when necessary. Solid judgments of the quality of instructor explanations of concepts were observed during each site visit. Consistency in instructor ability to explain the thought processes for the job-related basic skills applications procedures being taught was evident. For example, all instructors were able to explain several approaches to expressing workplace language functions and formats in a manner that elucidated the thought processes involved. This concurs with the developers' intent for use of the customized curricula and with current state-of-the art transfer of learning practices for workplace literacy in both the military and private sectors that result in highly effective application of instruction with training that refocuses instructional delivery practices from the teaching of memorized procedures to the teaching of comprehension via modeling the thought processes (metacognition) used in applying skills to performance contexts.

For a discussion of project process, please see "Summary of Results" under Discussion section of the evaluation. Following receipt of final data in December, 1995, PPLC assessed program outcomes (or "product") to determine the degree of project effectiveness.

Project Product:

To what extent are there indicators of project effectiveness?

The C.I.P.P. model enables gathering of evaluation date from more than one source to promote triangulation of results in an attempt to arrive at valid conclusions concerning project effectiveness. PPLC evaluated THE CENTER *et al* Workplace Literacy Project from four different perspectives of the users:

- survey statements concerning achievement of personal learning goals and value of the course(s);
- participant pretest/posttest scores;
- anecdotal reports from instructors and company representatives, noting participants' applications of course content to work-related and everyday tasks outside of class; and,
- interviews with selected partnering company managers and training directors to discuss perceived program effectiveness and future commitment to its use.

Meeting Participants' Goals- The first aspect of project product effectiveness was collected on post-program surveys and from on-site interviews concerning the degree to which participants in the various programs were able to achieve their personal learning goals. During interviews, most learners expressed satisfaction with the content of courses. A frequently mentioned as was the building of confidence that enabled participants to use the skills they were learning in order to improve current job training task performance or prepare for promotions. In asking learners to rate the program, the evaluator heard that the contents, instructors and schedules all received ratings of "extremely helpful" or "very helpful." Participants' reasons included liking the individual attention because they got encouragement and their questions were answered; instructors who seemed to really understand participants' needs and were able to explain things well, convenience of meeting times and location, and the relevance of materials to their personal and training needs. Suggestions for improvements were few; those that were

mentioned included a desire for additional computer delivered instruction in math and more courses.

Participants completed data collection forms that asked if their program had helped them reach or make progress toward any of their personal goals and if they "would recommend participation in the program to a co-worker," 100% of the learners responding answered *yes*. Additionally, participants responded to the question, "What did you like about the course?" Answers included the following ***verbatim*** statements:

Participants' Comments about Courses

I feel more confidence when I speak & I take my time when I speak	Improved my writing and reading
The people, the teacher, I made friends. It makes me feel confertable	Reading and writing and learned a few things
Open communication	Different hours
Open communication and the presentation we had to give	Spelling
Everything it was a very good because pronunciation spelling and was very good.	Understand reading; spelling better
I like everything	I llike every thing about it
The teacher explain clear and took her time. I learned espealing, reading, and pronunciation.	I learn a lot of things that I did not no.
The teaching and explanations, and pronunciation	I have more confidence for more speak open
Everything	I learn more English
I like the materials and the teacher	I like the course because it helps me improved my English.
We learn gramer. I did like her materials what ever she gave us.	About having control of are self and lissen to other person, be helpfol!
I like the course and like getting pay for learning.	I like the course because she gave us a lot of paperworks for instruction we need.
I like the course because I write a lot of thing.	I like everything about the course
It's covers all diffrecee topics; we can discuss different subjects.	I enjoyed everything
The course was very good for me	Being with other people
Learn more about the lenguhs	I like all, everything was good.
I was very impressed by my teacher.	It made the materials at [company] a lot easier to understand.
	I think the course was very good class.
	Material about [company], atc.
	The instructor was very patient.

Participant Pre- and Post-Test Scores - Participants in each course were administered parallel versions of pre- and post-tests developed by THE CENTER staff to measure the core skills and competencies taught in the course. Based on a limited sample of data made available to the external evaluator, the average pretest score was determined to be 54%, with a median (middle value) score of 60% and a mode (most frequent score) of 43%. The post-test score average was 80%, with a median of 84% and a mode of 91%. This evidenced an average gain of 26%, with a median gain of 24% and a mode gain of 33%. For a detailed report on the data sampled, please see "THE CENTER Data Analysis Sample" contained in Appendix A.

Instructor and Company Representatives' Anecdotal Records- To determine how and if learners were transferring new concepts and skills to applications on the job or outside of work, PPLC requested key project personnel to report any instances of participants referencing situations in which they were using outside of class what they learned. Comments included:

- Our employees are now eager to participate in company employee meetings.
- Our program was voluntary. Sixty to eighty percent sign up on the spot when they see their assessment scores; our people want to do better and keep this plant open. They [employees] need to use hand-held computers on the job; after taking these classes, they now have the math skills to operate them.
- We were going to offer a program for 9 participants in workplace reading-- 65 workers showed up for the course.
- People are speaking up more at meetings, asking questions; they're showing more team involvement on the floor, too.
- They [employees] can follow oral and written job procedures better, do their SPC charting and understand and interpret what they see. They're better at understanding safety procedures, too.
- We're expanding this program to all of our facilities it's been so successful.
- The best thing going in our training program is the "Core Skills" Program.

- The positive changes in our operations that we see we attribute to the Basic Skills Program. For example, in packaging, the documentation that used to be done by inspectors can now be completed by our operators.

- We tried out a new form on the floor that our operators need to use for their certification. Six of our employees tried for the certification, but could not complete the form accurately to pass the test; after taking the class, all six passed their certification test on that form.

- We met our company goals: we had a 99% positive response from our employees about these basic skills courses; 71% of the participating employees took more than one course. Participants are now volunteering for leadership roles in their jobs.

- More technical, higher positions are held by the current basic skills course participants than by those employees who haven't participated. Those who take these courses are now upwardly mobile in our company, and that's what we like to see.

- One participant in my class was entry-level ESL. Her only English comment to me at the beginning was, "I don't need reading." She had refused a leadership role on her job. We talked her into staying in the class. When she finished the course, she asked her manager if she could reconsider the leadership position. Now she has that position and is constantly asking for more classes to attend.

- A woman with very limited English speaking skills, who works in my area, appeared to be very shy. She always got me [her supervisor] to translate for her. After attending only three classes, she stood up in a small employee meeting and offered her opinion to the group.

- Our turnover rate used to be 75%. After we started offering the English [ESL] classes, the turnover rate among participants dropped to 12%! Now, a year later, the turnover rate among those who participated in the classes is still lower than for others-- only 20%.

Interviews with selected company managers and trainers - Those managers and trainers from the partnering companies selected for evaluation focus were interviewed during the last few months of project operations. Those available for interviewing during the last site visit included representatives from R. Olson, Avon, and Brach. All expressed opinions that the courses had been beneficial to both the employees and to the organizations. One company plans to expand the program, which is voluntary, to all its locations and to offer Saturday classes, despite downsizing. Another wishes to continue to provide classes at the current location on a fee for services basis with THE CENTER. The third company expressed a desire to continue, but only if additional outside funding could be obtained by THE CENTER. The Project Director noted during an exit interview that 12 of the 21 partnering companies had expressed decisions to continue programs either through their own resources or through outside funding from the State of Illinois.

For a discussion of program product, or out comes, please see "Summary of Results" under the Discussion section of the evaluation report, which begins on the next page.

Discussion

Limitations of this study- There was one factor that acted as a limitation on the ability of this study to draw definitive conclusions from the evaluation. This was the difficulty experienced by the evaluator in collecting and obtaining some of the requested data from some of the program partners in the formats required for inclusion in the evaluation. The conduction of data collection from a distant location for the majority of the demonstration period placed excessive responsibilities on an already over-burdened local project staff. Although the staff in this project exhibited an exceptionally cooperative attitude, the unavoidable off-site monitoring functioned as a somewhat limiting factor in this evaluation in that there was a minimum of direction and no training available in using the various data collection instruments that were developed.

Summary of Results- The following statements provide summary and discussion of key findings from the evaluation of project context, input, process, and product.

Context- The extent to which the goals and philosophy of the project were shared by key project personnel and learners was found to be as follows:

Areas of consensus: In this funding period there was a good deal of consensus about program goals among the Project Director, partnering company representatives and program liaisons, and project site coordinators/instructors. All highlighted the importance of the instruction as a means for mastery of basic skills and their applications to job training tasks and requirements. The use of these skills to foster workers' abilities to enhance career opportunities and job performance was mentioned by all. Participants also commented on their desire to improve these skills and on the programs' relevance to accomplishing their personal goals.

Areas of divergence: There were no major areas of divergence evidenced. The only point of concern is that a less-than-desired amount of data was available to determine participants' goals prior to their taking courses. This made comparisons of their individual goal statements from before and after the course impossible. One of the benefits from such comparison is the ability to determine whether the courses are being advertised and/or promoted accurately and appropriately.

These observations should not be taken to mean that project staff were not doing their jobs. Participants expressed indications that they perceived themselves to be learning skills they could apply in the workplace and training courses and were having their needs met. Most learners were satisfied with their experiences, sometimes because of instructor personal attention.

Input- The availability to the project of resources during development and implementation and to what extent they were effectively used was found to be as follows:

Strengths and Weaknesses- The curriculum materials developed for the program contained numerous job task examples of skill applications, enabling learners to practice skills in ways they would use them in craft training or in the workplace. Resources for program development appeared adequate financially for instructional delivery. Examples of purchased commercially-developed materials that individual instructors inserted into some courses were of a high quality and integrated well with the custom designed curricula. Materials development time lines incorporated across the delivery time lines of the program enabled adequate time for development of quality curricula.

Content of the program curricula was well designed including the modeling of applied basic skills thought processes and language functions in the workplace. The resulting original materials created for the project contain strong lessons that offer participants opportunities to develop cognitive awareness of their thinking strategies during applications of basic skills to job tasks and job communication needs, and that enhance the probability of continued application of those skills learned. The inclusion of pre- and post-tests or assessments for all curricula provided strong evidence that participants made progress in mastering the content of the programs. Scripted instructional delivery guidelines could enhance and standardize content delivery by the instructors to ensure best use of materials and the constant quality of instructional delivery should some companies choose to utilize their own trainers as instructors in the future.

Instructor and program developer qualifications and previous experience were rich and highly professional; they provided a definite enhancement to the program overall. Criteria might be derived from a composite profile of the qualifications and background

of these key personnel for use as hiring guidelines for project or program institutionalization or replication.

Instructor training sessions proved to be adequate; they provided the support system that the program needed for full acceptance by the instructors, congruence of purpose and mastery of techniques.

Process- The extent to which program development and observed instruction were congruent with program goals and research on instructional effectiveness follows:

Areas of convergence and divergence: Learner engaged time was quite high and learners spent 85-95% of time in the classroom actually participating in skill building activities. Both instructors and participants appeared motivated to take full benefit of instruction time and took pride in the efforts made.

The quality of instruction was good overall. The instructors observed appeared to be engaged in "reciprocal learning" with the learners and displayed a caring attitude and willingness to assist learners achieve their goals. Evidence varied from instructor to instructor, but an ability to demonstrate the thinking processes necessary for basic skills to be taught effectively was evidenced in most instructional delivery.

Project management, selection and recruitment of participants, and so on, were well administered and appeared to be effective. Numbers of program completers were exceptionally high (98.7%). These are good indications that program advertisement and publicity accurately reflected content, that instructional sessions were scheduled for convenient times and location, and that participants' goals were being met satisfactorily.

Product- The impact of the program was assessed with a combination of indicators, including comments from learners and instructors, comparisons of pre- and post-test scores, and exit interview responses from key personnel representing both the education and business partners. A summary of the results follows.

Business and industry organizations normally evaluate training on four levels. Because workplace literacy programs are directly related to assisting workers and trainees

attain career goals by meeting job requirements and improving performance on job tasks, it is appropriate to measure program outcomes using this yardstick:

Level I - does the proposed program match with an identified organizational need? In this case, the project programs were desired by the partnering organizations, manufacturers and financial service companies in the Chicago and Cook County area, to enable their workers to master and complete company technical and quality training courses and to function better at work through improved workplace applications of basic skills. The grant application shows that specific job tasks and special needs of each critical job task were identified and targeted. The job tasks and requirements were carefully selected and analyzed through literacy audits, from which the curriculum was then developed.

Level II - do the participants selected for training master the content of the training program? Impressive gains from pre-/post test scores, instructor and company representative anecdotal reports and post-program statements by participants provide strong evidence that participants mastered the content of programs for which this data was collected.

Level III - do those participants who master training demonstrate improved job performance in areas identified as critical to show positive transfer of learning? Program anecdotal reports and comments elicited from partnering company managers and trainers indicated that significant changes in employee performance were noted. Of those who cited improvements, most were able to identify specific observable measurable behaviors that clearly demonstrated positive transfer of course content to job training tasks. This provides an indication of transfer of learning to job performance.

Level IV - does impact on performance lead to demonstrable cost benefits, i.e., money saved or generated, by the positive change in employee behavior? In this case, partnering companies did not report indications of positive program impact via individual behavioral indicators, performance appraisals, or supervisor ratings; nor did they cross-reference these with instructional objectives of the program. No data exits, therefore, for determining the possible cost-benefits derives from employee participation in the programs. The data collected as evidence of higher retention rates of participating employees and of generally improved job performance due to the workplace literacy courses are positive indicators of benefits derived from the program.

When programs are underwritten by federal funding, it is viewed in a positive way to apply such monies to value-added training for an organization's workers. When an organization does not elect to invest in continued human resource development (i.e., the program) with a "hard match" of company funds at the same level of commitment beyond the funded period, it indicates that such training has not become an organizational priority. In discussions held by the evaluator with representatives from several of the partnering companies at the conclusion of the project, the decisions to institutionalize and/or replicate the demonstration project varied. This indicated a moderate amount of evidence that the programs are viewed as something that adds value to the partnering organizations.

Conclusions and Recommendations

Based on the results of this evaluation, the following conclusions and recommendations concerning stated grant goals are offered.

There is strong evidence showing:

- that the productivity and efficiency of 21 companies was improved by providing workplace literacy instruction to workers lacking basic skills required for their jobs through

  - conducting literacy audits and needs assessments;
  - developing and selecting assessment instruments for participating companies;
  - developing customized competency-based curricula and classroom instructional materials;
  -selecting and training workplace literacy instructors;
  -recruiting and pre-/post-testing and counseling 2400 workers; and
  -scheduling 100 modules.

- that the capability of educational providers to meet the basic skill needs of the manufacturing and financial services industries was improved by developing customized curriculum and instructional materials.

There is a moderate amount of evidence indicating:

- providing instruction to 1933 participants;
- measuring the learning of 1933 participants;
- measuring the impact of the basic skills programs on the companies.

Recommendations:

1. Project serving fewer workers in future grants so that down-sizing, slow-downs, lay-offs or any other company actions or events beyond the control of the project do not adversely affect project goals

2. Work more closely with partnering companies to identify observable, measurable performance indicators that can be quantified and utilized to better determine impact of programs on job performance. Documenting improvements in quantifiable terms allows the company to translate competencies met into budgeted dollars for continued basic skills training.

There is little or no evidence demonstrating:

- that an Employer/Employee Basic Skills Committee was established; and,
-that centeralized learning labs utilizing customized software and individualized instruction for small business clusters was established.

Recommendations:

1. Keep detailed records of committee purposes, meetings and activities to document its functions. This would enable a determination of the committee's effectiveness in performing its assigned role or duties.

2. Determine the level of organizational commitment, and availability and technical level of computer equipment for program use prior to committing to software development as a project goal. Computer -based learning software for independent self-study is a highly competitive in the training materials market, but usually only purchased and utilized by larger companies. Development time is high to create competitive products, so staff time should be allowed for the software authoring learning curve, as well.

Concluding Statement: After working with this project for two and one-half years, it is the opinion of the evaluator that this has been one of more effective US Department of Education Workplace Literacy demonstration projects. This conclusion is based on abundant evidence showing 1.), the vast amount of high quality, customized, functionally contextual curriculum that the staff produced throughout the demonstration period; 2.), the ability of the project director to accomplish project tasks and solve unforeseen daily problems through tenacity, innovation, an unflagging high energy level, and constant attention to detail; and, 3.), the indication of institutionalization and ongoing enthusiastic support for the project by two thirds of its business partners. These ingredients indicate

success and suggest that this project is one that should receive strong consideration for use as a national model.

Appendix A

Workplace Education Division /THE CENTER
Project Data Analysis
Sample

Participant	1	2	3	4	5	6	7	8	9
Avon:	Rdg/WrtgA							Rdg/Wrtg1A	
Pretest	68%	28%	43%	15%	20%	60%	70%	60%	30%
Posttest	0.95	68%	84%	84%	92%	95%	87%	71%	81%
% gains	27%	40%	41%	69%	72%	35%	17%	11%	51%
hours attended	30	34	30	34	33	34	33	36	36
Participant Ratings:									
Course	5							5	
Materials	4.7							5	
Instructor	5							5	
Amt. oral job skill imprvmt.	4.7							5	
Take more courses	60%							0%	
Recommend to coworker	100%							100%	

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Workplace Education Division /THE CENTER
Project Data Analysis
Sample

Participant	10	11	12	13	14	16	17	18	19
Avon:		Rdg/WrtgB						Rdg/WrtgB	
Pretest	43%	60%	75%	88%	68%	70%	56%	77%	70%
Posttest	71%	93%	70%	91%	80%	89%	68%	91%	91%
% gains	28%	33%	-5%	3%	12%	19%	12%	14%	21%
hours attended	32	24	36	26	31	34	32	30	36
Participant Ratings:									
Course		4.5						4.6	
Materials		4.3						4.5	
Instructor		5						4.8	
Amt. oral job skill imprvmt.		3						5	
Take more courses		66%						100%	
Recommend to coworker		100%						100%	

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Workplace Education Division /THE CENTER
Project Data Analysis
Sample

Participant	20	21
Avon:		
Pretest	82%	73%
Posttest	93%	81%
% gains	11%	8%
hours attended	36	36
Participant Ratings:		
Course		
Materials		
Instructor		
Amt. oral job skill imprvmt.		
Take more courses		
Recommend to coworker		

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Workplace Education Division /THE CENTER
Project Data Analysis
Sample

Participant	22	23	24	25	26
Avon:	Rdg/WrtgB				
Pretest	88%	72%	65%	82%	80%
Posttest	88%	85%	71%	90%	90%
% gains	0%	13%	6%	8%	10%
hours attended	34	34	32	34	16
Participant Ratings:					
Course	4.2				
Materials	4.4				
Instructor	3.8				
Amt. oral job skill imprvmt.	5				
Take more courses	20%				
Recommend to coworker	100%				

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December, 1995

Workplace Education Division /THE CENTER
Project Data Analysis
Sample

Participant	27	28	29	30	31	32	33
Avon:	Rdg/Wrtg Doc1						
Pretest	30%	30%	41%	43%	58%	20%	15%
Posttest	78%	78%	80%	82%	91%	70%	70%
% gains	48%	48%	39%	39%	33%	50%	55%
hours attended	30	34	34	30	32	26	34
Participant Ratings:							
Course	4.4						
Materials	4.1						
Instructor	4.7						
Amt. oral job skill imprvmt.	4.4						
Take more courses	14%						
Recommend to coworker	100%						

Workplace Education Division /THE CENTER
Project Data Analysis
Sample

Participant	TOTALS	
Avon:		
	Pretest scores:	average
Pretest		54%
	Posttest scores:	
Posttest		80%
% gains	% gain	26%
hours attended		
	Average No. hrs.	31
Participant Ratings:		
Course	Average course rating	4.62
Materials	Average materials rating	4.5
Instructor	Average instructor rating	4.716667
Amt. oral job skill imprvmt.	Av.amt.oral skills imprv.	4.516667
Take more courses	Av. % take more courses	43%
Recommend to coworker	Av. % recommend to coworker	100%